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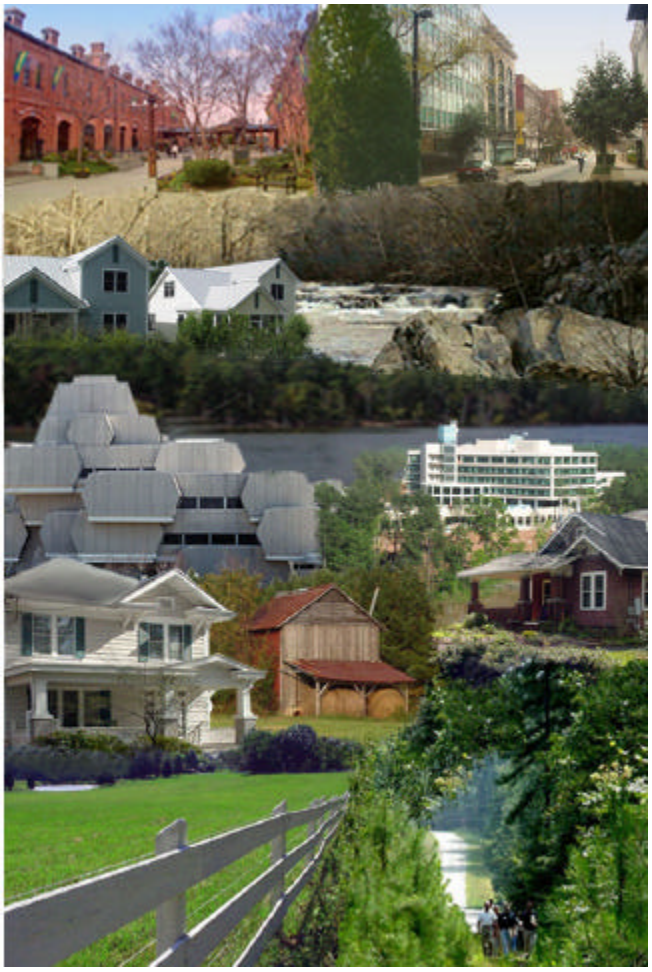

DURHAM DESIGN GUIDELINES

Durham City-County Planning Department

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INTENT OF THE DESIGN MANUAL

Purpose

Good design is a fundamental element in the success of any environment. The purpose of this design manual is to ensure a quality development through the use of flexible, clear, and objective design guidance.

The Durham Design Manual is intended to act as a series of positive directives that implement many of the visions and values of other adopted policy documents such as the Comprehensive Plan, Small Area Plans, and other special area studies. It is essentially a policy document based on fundamental principles of good site, architectural, landscape, and urban design.

In addition this manual is intended to go beyond the role of a regulatory document and be used as an educational tool. It is not envisioned as a primer on design, but rather a synopsis of the types of design that can enrich the unique character of Durham. The manual identifies broad objectives and specific goals, which are important to the attractive and environmentally conscious development of this City and County.

Objectives

The Durham Design Manual aims to:

- develop an attractive, visually interesting, aesthetically vibrant, and diverse environment for residents and visitors alike
- promote visual harmony in the built and natural environment while encouraging a variety of creative design solutions and alternatives
- enhance the community through quality design and building for all types of development
- advance architectural and urban design standards that enliven streets, neighborhoods and communities
- respect and enhance the existing resources and assets of the built and natural environment
- encourage sustainability and environmentally conscious design considerations in all types of development
- foster a sense of historical continuity in the physical evolution of the environment
- create a hierarchy of transportation which includes the pedestrian as well as motorized and non-motorized vehicular elements

Organization

USE OF THE DESIGN MANUAL

The main body of the manual is organized into three **sections** that deal with broad types of general development: residential, non-residential, and special areas. Each section is comprised of **chapters** that address particular design challenges for that general development type. The chapters are further broken down into broad **topics** that include specific design **issues**. Each design issue is phrased as a **goal** that the development must meet. Goals are followed by **guidelines**, **standards**, or both. Guidelines are suggested flexible ways to meet the stated goal, while standards are direct, concrete requirements of the goal. Graphic examples are included in some sections of the manual.

The following outline, with a corresponding example to the right, helps illustrate the manual's organization:

Section	3	Special Areas
↳ Chapter	3-1	Downtown Design
↳ Topic	3-1.1	Site
↳ Issue → Goal	3-1.1.1	Sustainability (issue)
↳ Guidelines	3-1.1.1a	"minimize land disturbance"
↳ Standards	3-1.1.1f	"minimize erosion"

The main body of the manual is followed by a series of appendices that are aimed at supplementing the three design sections. Information contained in the appendices ranges from the technical (as in the glossary and recommended tree species list) to the interpretational (such as the elements of compatibility). Each appendix is intended to provide additional information or resources to help developments meet the stated design goals. As more information or clarification is needed, the appendices can also be expanded and revised as part of this document's evolution.

USE OF THE DESIGN MANUAL

Applicability

Since Durham is rich with a wide variety of development types, situations, and circumstances, this manual addresses development differently in its three sections. Each type of development is subject only to the sections and chapters that apply to it specifically. Two methods exist for determining the applicability of the various parts of this manual to a development project: by designation or by classification.

Section 1: Residential and *Section 2: Non-Residential* are applicable to all development types within the respective classifications. In each of these two sections, the first chapter addresses themes common to the development type as a whole, while the subsequent chapters deal with specific project classifications. In both sections, the "general" chapter shall apply in addition to whichever of the other specific chapters is most relevant. For example, a multi-family development must meet both *Chapter 1: General Residential* and *Chapter 3: Multi-Family*.

Section 3: Special Areas is the only section that is applicable by designation, and contains guidance on various special development situations that do not fit neatly into any single use classification. Development in areas that are specially designated must comply with the provisions of the applicable chapters of Section 3, and are not subject to any other part of this manual. Special designation can occur through reference or by boundaries. A development may be under special designation if an adopted plan or ordinance references adherence to this design manual or by inclusion in a district denoted on the official Zoning Map.

Design Approval

The mechanism for design approval may vary depending on the development type, zoning, and designation within a special district. For information regarding the application and approval processes in Durham consult the City-County Zoning Ordinance or the City-County Planning Department.

The Durham Design Manual is intended to be a guide for developers, architects, landscape architects, planners, and property owners to use to facilitate the design approval process while aspiring to higher standards in the various aspects of design.

CHAPTER 1: DOWNTOWN DESIGN OVERLAY

CHAPTER 2: DOWNTOWN STREETSCAPE

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ARCHITECTURE 1.2

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LANDSCAPE 1.3

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1.3.7 Retaining Walls & Fences

INTENT

The purpose of these guidelines is to facilitate the goals for the Durham Downtown Master Plan whose vision focuses heavily on "quality of life" issues such as strong neighborhoods, attractive spaces, wealth of services, and active social outlets. In this vision, Downtown Durham is a quality of life asset for the entire community, bringing unique spaces, recreation, excitement, history, social opportunities, and cultural resources to all Durham residents.

The physical and aesthetic character of Downtown Durham is crucial to its success, as it strongly impacts community attitude, tourism, and retention of business efforts. The Downtown Durham Master Plan identifies, and this manual supports the need for a strong urban design character based on the following four elements of a strong downtown:

- Distinguishing Design
- Activity at the Street Level
- Gathering Spaces
- Attention to Design Detail

Key Objectives of Downtown Character:

- *Encourage and facilitate historic preservation*
- *Initiate a comprehensive streetscape program*
- *Encourage compatible and quality design in new building and streetscape recommendations*
- *Design appropriate transitions between the core area and the surrounding neighborhoods.*
- *Utilize image and gateway features to establish a unique downtown identity*
- *Mitigate impacts from incompatible uses*
- *Promote effective business storefront signage, graphics and window displays*
- *Provide additional user-friendly amenities*

-Downtown Durham Master Plan

The following guidelines and standards have been developed to aid both the private and public sector property owners, developers, architects, planners, engineers and landscape architects in understanding how to accomplish the goals and visions of the Master Plan in a comprehensive approach. The intention is to provide parameters in deciding what Downtown will look like that offer a variety of opportunities for self-expression and individual responses to the existing resources and the context of Durham. Certain design styles, materials, and construction techniques that have been determined to be incompatible with the aesthetic and development goals for Durham will not be acceptable in future development.

The content of this chapter and *Chapter 2: Downtown Streetscape* that follows will be used in concert with City of Durham codes and ordinances as well as the Downtown Master Plan. The guidelines and standards shall form the basis for any new development or revitalization projects and the review and enforcement of such development or renovation/ revitalization. This manual may not contain all uses and restrictions that may apply to each individual owner, therefore, each owner and consultant should familiarize themselves with such provisions.

1.1.1 Sustainability

SITE 1.1

Goal:
Design sustainable sites that minimize impact to the natural environment and reduce infrastructure costs.

Guidelines:
a. Minimize land disturbance.
b. The size, design, and orientation of buildings should be sensitive to the existing terrain.
c. Reuse brownfields if economically feasible to repair environmental damage and reduce sprawl. Remediation must follow the EPA's Brownfield Redevelopment Program Requirements.
d. Incorporate on-site drainage retention into the landscaping design for more efficient water use.
e. Adaptive reuse of historic building stock is strongly encouraged.
f. Mix at least three uses per block to encourage a variety of activity.
g. Incorporate environmentally responsible building practices through compliance with *LEEDÒ* (*Leadership in Energy and Environmental Design*) or the Triangle J Council of Governments' (TJCOG) *High Performance Guidelines. See Comprehensive Plan policy 4.2.5a.*
h. Select sites to promote an even distribution of similar services and facilities, to reduce redundant development, and sustain economic viability.

The adaptive reuse of brick warehouses provides unique residential opportunities in downtown.

1.1.2 Resource Preservation

Goal:
Preserve cultural and natural resources, and incorporate them as project amenities through innovative design approaches.

Guidelines:
a. Preserve natural areas or features, including mature specimen trees, by clustering development on site, locating structures on previously disturbed land, or employing zero lot-line development where appropriate.

Standards:
b. Preserve or incorporate historic structures (as listed in *The Durham Architectural and Historic Inventory*) as part of the overall design concept.

1.1 SITE

1.1.3 Urban Public Space

Goal:
Incorporate urban public space in the form of courtyards, parks, plazas, and other outdoor gathering areas to provide varied streetscape experiences focusing on pedestrian connectivity, safety, comfort, and enjoyment.

Guidelines:

a. Define public space by the surrounding buildings to create a sense of enclosure without compromising safety and visibility.
b. Surround public space with active uses that generate pedestrian traffic, and connect the space to major activity centers or corridors.
c. Design outdoor spaces with consideration to views and the nature of surrounding development.
d. Site and landscape public spaces to maximize solar orientation, avoid building shadows during daily and seasonal use times, and provide summer shade and winter sun.
e. Incorporate pavilions that provide protection from inclement weather without being completely enclosed.
f. Design public spaces to allow for flexible use by groups of varying size.
g. Incorporate or preserve existing canopy trees in public spaces and common areas.
h. Locate public space adjacent to existing public space on abutting properties to maximize joint use.
i. Avoid locating public space at street corners.
j. Maintain visual openness along the street and sidewalk edge without completely exposing the site and its users. Buffer the public space from cars with curbside parking or with walls, planters, and/or landscaping which are less than three feet high. Avoid dense screening that secludes the interior, and provide multiple entry points into the space.
k. When substantial grade changes separate a public space from the street level, incorporate elements such as wide, terraced stairs to openly connect the two.

A well-defined courtyard feels enclosed and protected while remaining open to users.

An urban plaza should have direct access from surrounding streets and buildings and preferably be at street level.

Standards:

l. Urban public space shall be visible and have direct access from adjacent streets and surrounding buildings, and be connected by a pedestrian circulation system.
m. At least half of the public space shall be at street level, or no more than three feet above or below street level.

1.1.4 Siting & Orientation

SITE 1.1

Goal:
Ensure site and building design respect and take advantage of climatic conditions, existing neighborhood layout, and the orientation of adjacent buildings, streets, and pedestrian paths.

Guidelines:

a. Maintain existing streets to avoid the combination of blocks into large block developments. Large developments should have multiple pedestrian entry points on each street front side.
b. Site buildings to reinforce important pedestrian routes by orienting plazas, building entries, and walks toward major walkways. Avoid locating structures where they will cut off important existing pedestrian paths.
c. Site buildings to provide efficient connections with activity areas, pedestrian links, and public spaces.
d. Site and building design should consider the impact of solar orientation and shade patterns on adjacent development.
e. Site buildings with their front facades at the public sidewalk or front property line, especially for the first few floors, to create a pedestrian scaled urban street wall. Plazas, arcades, and other public spaces may exempt a building from literally meeting this requirement. When building to the sidewalk is not appropriate align structures to an established building line.

Standards:

f. Orient the long sides of buildings parallel to the street to reinforce the street pattern (whether curved or rectilinear) and minimize parking lot street frontage.
g. The minimum height to width ratio between opposing buildings and the space between them shall be 1:6, with tighter ratios preferred, to maintain appropriate urban street wall proportions.
h. At intersections, site buildings directly on the corner. Parking, loading, and service areas shall not be located at corners.
i. Locate service areas and unsightly and noisy elements at the rear of buildings, out of pedestrian view, and screen them with landscaping or architectural elements. Such elements include, but are not limited to, loading areas, parking lots, dumpsters, outdoor storage, utility meters, loudspeakers, guard dogs, HVAC and satellite equipment.

Align structures to an established building line when building to the sidewalk is not contextually appropriate.

1.1 SITE

Landmark views are important for way finding.

1.1.5 Views

Goal:
Protect important views to, from, and throughout Downtown through careful building and site arrangement.

Guidelines:

a. Preserve and accent views of landmarks and other structures that have been locally or nationally designated as historic along major streets. Locate buildings to create view corridors between pedestrian destinations including transit stops, major building entries, and public spaces.
b. Arrange buildings on site to enhance or frame important views of buildings or vistas. Maintain important views with appropriate building height, orientation, offsets, step-backs and rooflines
c. Avoid aerial pedestrian bridges where they block important views.
d. Articulate the tops of structures over 14 stories tall to add visual interest to the skyline. Avoid plain rectangular tops on buildings of this height or greater.

1.1.6 Transitions

Goal:
Ensure that more intense development is compatible with adjacent, less intense development, by incorporating site and building elements that gradually soften the impact from different use areas.

Guidelines:

a. Use modified building massing and stair stepping to transition to adjacent development.
b. Vary building setbacks gradually to soften the transition between sites.
c. Locate higher density residential development as a transition between non-residential uses and lower density residential neighborhoods.
d. Avoid creating buffers between adjacent developments such as with berms, walls, or fences. At a minimum, provide multiple breaks for pedestrian access in existing buffers, or in buffers desired for privacy, security, or as mitigation between incompatible developments.

Standards:

e. Create an attractive transition at significant grade changes with visually creative grading and landscaping (such as terraces), and incorporate pedestrian cross access. Avoid blank retaining walls or rock-covered slopes.

1.1.7 Design Context & Continuity

SITE 1.1

Goal:
Design new buildings and additions to complement rather than conflict with existing buildings, landscape, streetscape, and circulation patterns.

Guidelines:
a. Design multiple buildings on the same site or street to create a cohesive appearance, including the articulation of the outdoor spaces in between buildings.
b. Exhibit design continuity between project phases. Each phase should attain visual completeness.
c. Avoid designs which are awkward or incompatible with adjacent historic districts.
d. Avoid historic replication or misrepresentation, considering basic elements such as scale, massing, and materials instead.

1.1.8 Circulation

Goal:
Design access and circulation systems to allow a wide range of efficient movement options and avoid vehicular, bicycle, and pedestrian conflicts.

Guidelines:
a. Give pedestrians and bicyclists the same importance as motor vehicles, and buffer them from the street where possible.
b. On streets with high pedestrian usage, reduce vehicle speed using traffic calming measures.
c. Locate vehicular site access at mid-block or along alleys to minimize the use of adjacent neighborhood streets.
d. Limit the number of vehicular access points and avoid excess curb cuts. Share vehicular access with adjacent developments, and use alleys when feasible.
e. Join abutting properties and nearby streets through internal drives or parking lots. Maintain future potential links if adjoining properties are underdeveloped.
f. Provide marked bike paths or crossings as part of the overall street design where feasible.
g. Provide safe and convenient pedestrian access to and from buildings, streets, and parking. Connect new development to surrounding development and to nearby trails systems with sidewalks and paths.
h. Use buildings to reinforce pedestrian circulation by locating walks along building facades instead of along or across parking lots and driveways.

1.1 SITE

Traffic circles can work well in low speed applications, and provide opportunities to create focal points with special features or landscaping.

1.1.9 Traffic Calming Strategies

Goal:
Provide systems of circulation, landscaping, islands, and pedestrian paths that calm traffic by design.

Guidelines:
a. Avoid speed bumps and humps in new construction to reduce travel speeds.
b. Design continuous internal site travel ways to include elements that discourage high speeds every 300 feet.
c. Elements appropriate for traffic calming include chicanes, chokers, raised crosswalks and intersections, textured pavement, and crosswalk refuge medians.
d. Use traffic circles and roundabouts in sites with low circulation speeds only. Limit the number of access drives to avoid conflicts and confusion.
e. Avoid street closings, and other barriers that completely restrict access.

Standards:
f. The placement of speed humps or raised crosswalks shall be in accordance with the City of Durham Speed Hump Policy. Street design and traffic control measures must comply with the City of Durham and/or NCDOT design standards, as appropriate.

1.1.10 Parking Modifications

Goal:
Reduce parking where feasible, especially as part of an amenity trade-off to benefit pedestrians, bicyclists, and transit users.

Guidelines:
a. Share parking areas with adjacent developments that have different hours of operation.
b. Incorporate transit stop areas, where applicable, as part of the overall site design.
c. Group delivery and loading/unloading zones in service courts, away from pedestrian view. See section 1.2.13 of this chapter for design guidelines and standards for utility and service areas.
d. Provide bicycle racks where feasible.

1.1.11 Surface Parking Layout

SITE 1.1

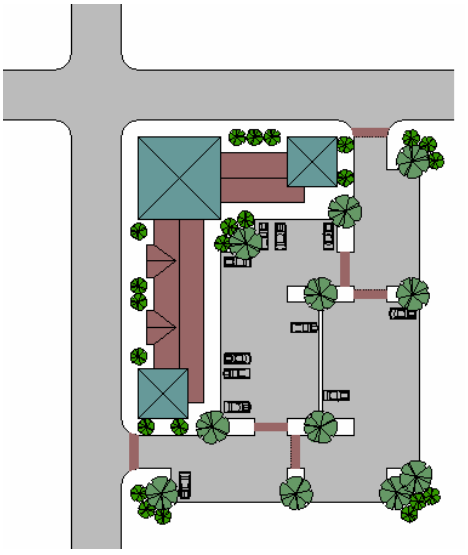
Goal:
Design parking areas that are safe, efficient, and convenient for the user, yet are visually unobtrusive to maintain the integrity of the urban street front.

Guidelines:

a. Provide on-street parking along with off-street parking as new developments are built and traffic improvements are implemented..
b. Design surface parking lots to share access drives with adjacent, compatibly zoned properties.
c. Separate and/or terminate traffic and parking aisles with concrete or landscaped islands designed to preserve adequate sight and turning distances. Paint striping is not adequate.
d. Orient aisles perpendicular to main entry facades to minimize pedestrian conflicts. Avoid parking along entry drives and major circulation aisles due to the high probability of vehicular conflicts.
e. Patron or visitor parking should not be located in areas with poor pedestrian access, such as the utility side of a building or complex.
f. Maintain a consistent parking angle and circulation pattern throughout a project. One-way angled parking aisles shall alternate the direction for adjacent aisles, and utilize reinforcing signage.

Standards:

g. Locate on-site parking to the rear or side of new development. In full block or through block applications, the preferred location for parking is in the center of the block or towards the least pedestrian oriented street.
h. Minimize the street frontage of parking lots. Standard parking landscaping will be considered part of the parking lot for purposes of determining its frontage. Parking lots shall not constitute more than one third or 64 feet of the total site street frontage whichever is less, unless identified as independent use parking lots.
i. Use curbs, wheel stops, fencing, or other barriers to protect landscaping and pedestrian paths.
j. Drop-off drives shall be designed to operate in one direction only, and should have a by-pass lane by which to circumvent queued vehicles.
k. On-street parking lanes shall be demarcated, and occasionally broken up, by bulb-outs for plantings and mid-block crossings subject to City of Durham Public Works review and approval, and/or NCDOT approval where applicable.



Parking remains accessible from the surrounding streets, though placing it behind the building minimizes its visual impact.

1.1 SITE

A large parking lot is broken up visually through the use of landscaped medians.

A street front parking lot is screened with decorative metal fencing, brick piers, and landscaping, aligned to match up with the existing street wall.

1.1.12 Parking Design Elements

Goal:
Promote innovative site design to minimize glare and the visual impact of a group of cars, and ensure safety and convenience for pedestrians and motorists alike.

Guidelines:

a. Use mitigating elements such as decorative fences, walls, plantings, and topographic features to screen parking lot edges and loading areas as well as to blend into the existing neighborhood fabric. Such elements should align with the street wall or sidewalk.
b. Emphasize parking entries and pedestrian crossings with textured, colored, or patterned paving to soften and break up their visual impact.
c. Divide large parking areas into smaller areas inter-connected by landscaped aisles and medians that provide protected pedestrian access between buildings and parking.
d. Provide landscape strips between parallel parking rows, which are wide enough to accommodate lighting, vehicle overhangs, plant material, and pedestrian walkways when appropriate.

Standards:

e. Incorporate trees throughout new and existing parking areas, both for their aesthetic qualities and for shade. Landscaped aisles should include canopy trees spaced according to Section 9.8.3.B.2 of the Unified Development Ordinance.
f. Maintain the existing street wall at parking areas through the use of fences, walls, tree rows, hedges, or any combination.
g. Locate bicycle parking close to building entries in safe, convenient, and visible yet unobtrusive locations. Install curb ramps near racks for easy access.

1.1.13 Parking Structures

Goal:
Ensure that the design of parking structures maintains and contributes to the integrity and safety of the pedestrian streetscape.

Guidelines:
a. Use structured parking to conserve land and minimize environmental impacts.
b. Design parking structure facades with architectural elements of appropriate proportions and materials to harmonize with the streetscape and nearby buildings.

Standards:
c. Site parking structures at the required build-to line. If the structure is located on a block that has an established building line that is closer to the street than the build-to line, then the structure shall align with the existing building setbacks.
d. Design entries to be clearly visible and accessible.
e. Locate vertical pedestrian circulation elements (stairs, elevators, etc.) along the perimeter of the structure for ease of access and safety. Articulate vertical pedestrian circulation elements so that they are evident from the exterior of the structure, especially at corners.
f. Wrap the ground level of parking structures with retail or other activity generating uses, at least on the main street front side in accordance with 1.2.6g and 1.2.6i.
g. Minimize the visual monotony of repetitive structural elements at ground level by varying the facade treatments from bay to bay, integrating planter walls and/or incorporating landscaping along long undifferentiated expanses of wall.

A windowed stair tower prominently occupies the corner of this parking garage, making it easy to both find the entry/exit and be seen inside.

1.2.1 Sustainable Architecture

Goal:
Incorporate energy conservation, passive solar and shading design strategies, and the use of green building technologies and products into architectural designs.

Guidelines:

a. Incorporate environmentally responsible building practices through compliance with *LEEDÒ* (*Leadership in Energy and Environmental Design*) or the Triangle J Council of Governments' (TJCOG) *High Performance Guidelines.*
b. Limit the amount of unshaded glass on building exposures subject to solar intensity and/or provide landscaping and architectural surface articulation to reduce heat gain in the summer.
c. Use on-site, non-polluting, renewable technologies for self-supply energy when feasible. Examples include solar, geothermal, wind, and biomass (biogas) systems.
d. Use materials and assemblies that require minimum embodied energy. Give preference to locally or regionally manufactured and available products.
e. Give preference to salvaged, refurbished, and post-consumer content building materials.
f. Use rapidly renewable resources such as certified wood.
g. Daylighting is strongly encouraged.
h. Renovate and reuse valuable historic buildings as an effective sustainable building practice.
i. Incorporate built in flexibility in buildings to accommodate future changes in use. Key elements that determine the future flexibility and adaptability of a structure include floor-to-floor heights and structural grids.
j. Design and construct structures to be as maintenance free as possible, and reach a lifespan of at least 75 years. High quality buildings that will remain a long-term element of the urban landscape are strongly encouraged.
k. Where feasible, employ a waste reduction and management plan to redirect construction, demolition, and land clearing debris to be recycled back into the manufacturing process or into other uses. Use separate on-site dumpsters for the separation of construction debris.
l. Provide cool roofs or green roofs where feasible to reduce cooling loads in buildings.

Standards:

m. Provide a dedicated area for the separation, collection, and storage of recyclables, inside or outside the building.

What is a "cool roof?"

Most roofs in the U.S. are dark colored and absorb a lot of heat, adding to cooling costs and the heat island effect. Cool roofs have high reflectance and emittance, meaning they absorb less heat because they reflect and re-radiate heat more than conventional dark roofs.

What is a "green roof?"

A green roof is a roof that is partially or completely covered by plants. A green roof can be as simple as a roof covered in succulents in a growing mixture or as complex as trees and shrubs in highly engineered planters.

A former garage leads a new life housing the offices and labs of a biotechnology center.

1.2 ARCHITECTURE

A residential adaptive reuse complex unites a variety of brick tobacco warehouses with consistent metal railing and canopy elements.

1.2.2 Design Continuity & Integrity

Goal:
Design architecture according to a clear, well-articulated design concept.

Guidelines:
a. Use consistent materials, details, and elements to produce a continuous architectural expression and maintain design integrity in new building projects with multiple structures.
b. Create a logical hierarchy of building forms through variations in massing.
c. Design building elements such as parapet walls or screen walls as an integral part of the architecture, with similar materials and details of the primary structure. Finish minor architectural elements, such as downspouts and soffits, with materials and colors consistent with the overall architectural design.
d. Incorporate elements that provide a choice of weather protection in the building design. Allow for rain cover and solar access in or along pedestrian areas. Appropriate architectural elements for this purpose include a mixture of recesses, overhangs, awnings, and covered walks.

Standards:
e. Buildings shall not be stylized or designed as advertising signage or corporate symbols.

1.2.3 Context & Character

Goal:
Ensure architectural designs are compatible with the developing character of the surrounding area, and contribute to the larger overall composition of the Downtown.

Guidelines:
a. Use complementary building styles, heights, massing, forms, materials, details, and/or colors that are sensitive to the architectural character of adjacent historic structures or areas, when appropriate.
b. Incorporate a level of detail consistent with that of the neighboring area to build on and preserve the existing character.
c. Avoid designs or elements that represent a corporate image, using them only as secondary elements when they are consistent and enhance or blend with the context.

1.2.4 Massing, Height, Scale, & Rhythm

Goal:
Design buildings that are appropriately scaled for their function and with respect to their context.

Guidelines:

a. Align or relate building height to that of neighboring structures. Design one-story buildings or additions with sufficient height to relate in scale to the surrounding structures.
b. Use tall buildings or building elements where they may provide visual interest, frame view corridors, or relate to larger scaled structures.
c. Use fenestration, bay patterns and street level details to achieve compatibility when building height or massing vary greatly from the surroundings.
d. Design buildings with an architectural and urban scale compatible with neighboring developments.
e. Incorporate upper story setbacks to reduce the apparent building mass, preserve the street level scale, and allow for sun access to adjacent buildings and public spaces.
f. Build upon the rhythms and proportions established by adjacent buildings while avoiding monotonous repetition. Building additions should build on the existing patterns, rhythm and proportions of the main structure.
g. Incorporate the vertical and horizontal lines of adjacent or existing buildings, where appropriate.
h. Relate buildings to the human scale through the use of architectural elements, proportion, materials, and surface articulation.

Standards:

i. Maintain consistent massing and perceived building height at the street level, regardless of the overall bulk or height of the building.
j. Avoid large unarticulated monolithic buildings. Break down the apparent scale of buildings with facades exceeding 50 feet in length by the articulation of separate volumes into a coherent, hierarchical architectural composition. See also Standard 1.2.7j.

Street level massing remains low and pedestrian scaled to reduce the visual impact of the taller building component beyond.

The articulation of this long facade keeps a potentially monolithic building pedestrian scaled and inviting. See also Standard 1.2.7j.

1.2 ARCHITECTURE

1.2.5 Materials & Colors

Goal:
Select compatible building materials and finishes that reinforce and build on the existing downtown character.

Guidelines:

a. Select materials based on their compatibility with neighboring buildings and the appropriateness for their intended function. Dissimilar materials may be allowed when incorporating other characteristics (such as form, scale, details, and color) that make the building compatible with the context.
b. Incorporate traditional building materials in additions or renovations to historic structures and, to a lesser extent, in buildings that are adjacent to historic structures.
c. Avoid frequent changes in material, and multiple color schemes in buildings.
d. Use low maintenance materials. For example, materials with integral color are preferred over those that require routine painting.
e. Use building materials that relate to the human scale (examples include modular units such as brick and stone). Monolithic and large scale building materials, such as stucco and concrete panels, need special details at the street level to minimize the building's bulk and relate to the pedestrian.

Standards:

f. Reuse original building materials or components or use authentic replicas on renovations of historic structures. If neither original nor replica materials can be used then completely different materials and/or colors than the original structure shall be used to accentuate the difference between the old and the new.
g. Use muted and naturally occurring colors as predominant building colors. Bright and highly reflective or extremely shiny finishes are discouraged unless used sparingly. Finishes with a high surface sheen, which may cause glare at the street level, are not allowed as they reduce the comfort of the pedestrian environment.
h. Materials with a rustic, unfinished appearance shall not be used.
i. Materials whose appearance and/or application are characteristic of industrial structures, such as corrugated metal, shall not be used, except where the design complements the surrounding structures, or pays homage to an existing building's history.
j. Material and/or color changes shall occur at a change of plane. Structures shall not have material or color changes at their outside corners, as this gives the appearance of thinness and artificiality

A contemporary ballpark uses traditional brick to reinforce the pedestrian scale, provide a low maintenance facade, and maintain continuity with historic tobacco warehouses across the street. See also 1.2.2 and 1.2.3.

1.2.6 Street Level Activity

Goal:
Generate street level activity with pedestrian oriented design on all street fronts.

Guidelines:
a. Avoid spatial gaps and interruptions along the streetscape, providing for continuous pedestrian activity.
b. Locate public or semi-public uses such as retail, entertainment, or dining venues on the ground floors of buildings.
c. Activate building fronts with large street level openings that draw pedestrian attention.
d. Expand indoor space into the outdoors, in the form of dining areas and merchandise and gallery displays, along plazas and walkways of sufficient width as to not disturb pedestrian flow.
e. Open-air walkways between buildings are preferred as they are more visible and friendly than interior hallways, and provide additional store frontages.
f. Multi tenant building occupancy is encouraged on the ground floor of all buildings.

Standards:
g. A minimum of 70 percent of the ground floor square footage of a street block should be occupied by pedestrian oriented uses, except where the ground floor is residential as in townhouse or row house developments.
h. Ground floor uses shall have direct entry from the street, preferably directly at street level.
i. Retail activities shall be oriented towards the street and have direct sidewalk access.

Ground floor dining spills out onto the sidewalk yet remains connected to the interior by large street level windows.

Ground floor shops are oriented towards the street, and have direct access from the sidewalk.

1.2 ARCHITECTURE

1.2.7 Facade Design

Traditional facade details such as cornices, canopies, and recessed storefront entries, are reinterpreted in the design of this modern building.

The lower, street level stories are differentiated from the upper stories by materials, finishes, and the level of detail.

Goal:
Ensure facade design exhibits a unified architectural expression consistent with the design concept and complementary to Downtown.

Guidelines:

a. Design all building elevations to create a complete multi-sided architectural expression. Design rear and side elevations with details and materials similar to those of the primary elevation.
b. Buildings should have highly articulated facades with details and elements that add interest at the pedestrian level.
c. All building elevations should exhibit architectural consistency in their colors, materials and detailing, acting as a single cohesive structure.
d. Long, continuous, undifferentiated, monotonous wall planes, especially those without fenestration are strongly discouraged along public streets. They may however, be placed along alleys and service lanes/courts, away from public view.
e. Incorporate traditional facade components such as parapet caps, cornices, storefronts, awnings, canopies, transoms, kick plates, and recessed entries into new construction to build on the existing downtown character.
f. Avoid false or decorative facade treatments that use unrelated materials or details.
g. Large parapet walls should reflect the function behind them and should not be freestanding.
h. Preserve original details from historic buildings by restoration or incorporation in other structures.
i. Locate towers and other distinctive elements where buildings terminate street vistas or occupy prominent corners.

Standards:

j. In buildings over three stories, maintain a distinction between the upper and lower levels.
k. Organize building facades to have a clear base, middle, and top. Accommodate additional building height in the middle section to preserve the pedestrian scale and urban proportions of the building.
l. No street level, street front wall should remain unpierced by a window or functional public access, such as a door or passageway, for more than 20 feet. See also Standard 1.2.4j of this chapter.
m. Proportion building bays or sections to appear more vertical than horizontal.
n. Original details and ornamentation shall not be obscured from view or removed from the facades of historic buildings.
o. New facade elements added to a historic structure shall be distinct and clearly modern in appearance.

1.2.8 Fenestration

Goal:
Design window and door placement to enrich the architecture and neighboring environment.

Guidelines:

a. Design windows and doors to be consistent and compatible with the context.
b. New openings in historic buildings should either match the originals or be clearly different in appearance.
c. Preserve the configuration and appearance of existing openings in historic buildings by installing replacement windows and doors of the same size, style and materials as the originals.
d. Avoid closing original window or door openings in existing historic buildings. Restore previously infilled openings whenever possible.
e. Avoid monotonous grids of repeated windows. The window pattern should add variety and interest to the architecture.
f. Locate windows to maximize the opportunity for occupant surveillance of areas such as entries, parking lots, and other public and semi-public spaces.
g. Emphasize the distinction between the lower pedestrian level of a building and its upper internally focused uses through the proportion of building transparency. Windows at street level should be large, while the upper stories may appear more solid with smaller or less openings.

Standards:

h. Windows shall be proportioned to appear vertical, even when combined to form horizontal window bands.
i. Window muntins shall be true divided panes or fixed both on the interior and exterior surfaces and not sandwiched between the glass panes.
j. Shutters shall be sized and shaped to match the associated openings.
k. Storefront and street level windows shall have transparent glass. Mirrored, frosted, and tinted glass is inappropriate for a pedestrian streetscape.
l. New non-residential street level facades shall maintain a transparency of at least 65 percent for retail uses, and at least 50 percent for all other uses when adjacent to sidewalks, pedestrian walks, or urban public space. This standard may be waived for historic or other existing buildings if all original street level openings are maintained and the transparency is not reduced. Transparency shall apply to a minimum depth of three feet and be maintained free of internal partitions.

Large scale windows work well at street level, while the upper story windows are vertically proportioned and broken up to appear smaller and less horizontal.

1.2 ARCHITECTURE

1.2.9 Building Entrances

Goal:
Provide highly visible and inviting building entries.

Guidelines:

a. Use entries that provide protection from the elements, with canopies, arcades, recesses, or roof overhangs to reinforce the pedestrian scale.
b. Breezeways that connect the street with internal parking areas and public spaces are encouraged, and should be designed with similar importance as other entryways.
c. Emphasize entries with architectural features, changes in the roofline, different massing, or unique materials.
d. De-emphasize entries into service courts and design them to be minimally visible by pedestrians.

Standards:

e. Clearly define primary building entrances and orient them towards the street. Entries from parking or transit areas shall be secondary in nature.
f. Where possible locate primary entries to new buildings close to or at grade directly opening onto the street. Avoid entries in interior lobbies.
g. Maintain original building entries in historic structures. New entries should be in contrast with the existing historic architecture without competing with it.
h. Provide safe and inviting breaks in long buildings for pedestrian access. Include multiple entries for large buildings at a minimum of 150 feet spacing to encourage walkability and activity

.

A pedestrian scaled entry along the street stands out thanks to a contrast of materials and details.

1.2.10 Roofs & Rooflines

Goal:
Provide attractive and interesting rooflines as part of a complete community skyline.

Guidelines:
a. Design roof features and parapets to complement the character of adjacent areas.
b. Enhance the character of the roofline through detailed cornice or eave treatments.
c. Alternative uses for roofs, such as terraces and gardens are strongly encouraged.
d. High reflectance/low emissivity roofing is strongly encouraged.

Standards:
e. Building additions shall have roofs that are either compatible with or completely distinct from the original architecture.
f. Roof and parapet design shall completely screen rooftop equipment from view by pedestrians or neighboring building occupants.
g. Vary the rooflines of large buildings to reduce their apparent scale.
h. Roof penetrations shall be placed back from the main frontage of the roof and finished to match the roof color

A variety of roof forms help break up the mass of the building, making it appear as more than one structure. Roof details such as cornices, brackets, and deep overhangs add interest.

1.2.11 Accessory Structures

Goal:
Coordinate accessory structures with main buildings and incorporate into the overall design concept.

Guidelines:
a. Design accessory structures such as ATM's, trash enclosures, storage areas, and utility buildings to directly relate in material, character and detail to the primary structure(s) or development.
b. Locate accessory structures to complement the overall site plan, and as to not create pedestrian or vehicular conflicts on site.
c. Site accessory structures intended for pedestrian use in areas of good visibility to ensure the safety of the users.
d. Accessory structures situated along pedestrian paths should be designed to be human scale both in massing and details

An ATM located in an open public space is made compatible with the surrounding buildings by housing it in a brick pavilion.

1.2 ARCHITECTURE

Downspouts are integrated into the facade as elements reminiscent of decorative arts and crafts roof brackets.

1.2.12 Common Design Elements

Goal:
Ensure that building elements are integral, coherent pieces of the architecture, which enhance the overall design.

Guidelines:

a. Decorative scuppers, which accent the architectural theme, are encouraged.

Standards:

b. Awnings or canopies shall be made of metal, glass or a light metal frame with a canvas membrane, be subject to the provisions of Section 12.8.1 of the Zoning Ordinance, and shall not interfere with the growth of street trees.
c. Downspouts shall blend with the architecture or act as an accent, not a dominant feature. Coordinate downspouts with horizontal features (like banding or coursing), and vertical elements (like pilasters, columns, and corners). Downspouts shall not be the only relief feature in a wall.
d. If downspouts cannot be integrated into the facade to avoid looking tacked-on, they shall be completely enclosed by elements of the building envelope.
e. Locate and detail new gutters and downspouts on existing structures to be unobtrusive, blending with the architecture.
f. Railings shall be metal, glass, wood, or a combination thereof. Unfinished treated wood shall not be allowed. Replacement railings shall either contrast with or replicate originals.

1.2.13 Utility & Service Areas

Goal:
Position services, including equipment, recycling, trash, utility, and delivery areas, to minimize their view and noise.

Guidelines:

a. Locate, design, and/or screen building services to minimize their audile and visual impact on streets and neighboring properties.
b. Avoid locating service areas along major view corridors, or adjacent to residential or hotel buildings or useable open space.
c. Locate and screen utility boxes, meters, and surface transformer switching pads to minimize their visual impact. Coordinate their location with the respective utility company early in the design process.
d. Outdoor storage is strongly discouraged.
e. All non-residential projects should provide a screened, dedicated recycling storage area with the appropriate access for collection vehicles. Such an area may be located adjacent to the refuse storage, but the enclosure must be large enough to accommodate both activities.

Standards:

f. Group utilities and services in a service court away from pedestrian view. The recommended location for all utilities, equipment, and service and loading areas is to the rear or least pedestrian side of a building.
g. For new development, install all on-site utilities underground where possible.
h. All rooftop equipment including, but not limited to, telecommunications, satellite, HVAC, and elevator equipment shall be screened from view, and noise levels shall be mitigated in accordance with the guidelines of 1.3.6 in this chapter.
i. Loading docks and service areas shall not be sited on the major pedestrian side of a building, and shall be screened from pedestrian view with architectural or landscaping elements.
j. Refuse and recycling enclosures shall be screened from view on all sides with an opaque screen of coordinated building materials or landscaping.

A rear service alley provides deliver access and hides utility boxes and meters.

1.3.1 Design & Materials

Goal:
Develop attractive, high quality, maintainable landscapes that are integrated with the architecture, and streetscape.

Guidelines:
a. The landscape design should create interest, add variety, provide focal points, and frame views.
b. Maximize and balance landscaping throughout the site. Give equal consideration to views from the indoors and outdoors.
c. A consistent, but varied, palette of plant materials is encouraged as a unifying framework, providing design continuity and site cohesion.
d. Optimize plant selection and location. Position deciduous plants to block the summer sun but admit it in winter.
e. Coordinate planting area and location with mature plant size.
f. Materials such as shredded, composted bark mulch, rock, and stone or masonry slabs should complement the plantings.
g. Landscape setbacks to act as a buffer between adjacent buildings and streets, to provide shade where possible, and to create an attractive view to and from the building.

Standards:
h. Landscape materials shall be appropriate in scale and nature to the site and architecture.
i. Use live plant material as ground cover, except in high traffic areas, where decorative paving is preferred.
j. The landscape design should help direct circulation, and shall not obstruct pedestrian or motor vehicle sightlines, or interfere with parking and circulation patterns.
k. Coordinate landscaping so that at maturity interference with utilities, driveways, clearance zones, or site lighting is avoided.

Landscaping creates a foreground for the architecture when the building is set back from the street.

Pedestrian scaled landscaping is arranged and maintained to frame the sidewalks in front of this commercial building.

1.3.2 Streetscape Coordination

Goal:
Coordinate site landscaping to complement and be compatible with the streetscape landscaping.

Guidelines:
a. Develop site landscaping as an extension of the streetscape.
b. Whenever possible, incorporate nearby streetscape elements into the overall site landscape.

Standards:
c. Site landscaping shall be consistent with the landscaping provisions described in Chapter 2 Downtown Streetscape.

1.3 LANDSCAPE

1.3.3 Sustainable Landscaping

Goal:
Incorporate water-wise principles and water pollution reduction strategies into the overall landscape design.

*NOTE: Refer to the Planning Department's **Landscape Guidelines** for lists of recommended and prohibited plants.*

Guidelines:

a. Give preference to native, self-sustaining, low maintenance, drought tolerant, appropriately sized and pest and disease resistant plant varieties.
b. Landscaping adjacent to building openings such as air intakes, entries, and operable windows should avoid the use of allergy causing plants and those that require chemical treatment.
c. Use plant combinations and maintenance strategies that do not require routine chemicals, to reduce water pollution from pesticides, herbicides, and fertilizers.
d. Group plants with similar water needs together, and locate them appropriately on site to ease maintenance.
e. Reduce lawns and opt for low maintenance plants, thus reducing chemical and mower pollution, and energy, water, and maintenance costs.
f. Install non-compacting gravel, sand, pavers-on-sand, and other partially pervious surfaces when possible to allow water infiltration, thereby reducing non-point source pollutants and minimizing erosion. Where non-pervious surfaces are necessary, use in-pavement water and fertilizer deployment systems.
g. Amend soil with compost or other organic matter in lieu of peat moss, a non-renewable resource.
h. Use gray water for site irrigation when possible.
i. Use bio-retention cells at the ends of downspouts where possible to reduce runoff and pollution.

Standards:

j. The planting of invasive species is not permitted.

1.3.4 Crime Prevention Landscaping

LANDSCAPE 1.3

Goal:
Select and position plant materials to promote a feeling of safety, aid occupant surveillance, define private and public space, and deter crime.

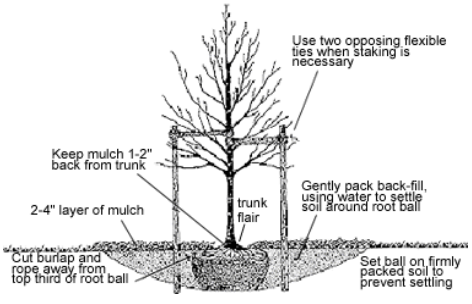
Guidelines:
a. Ensure good visibility between the indoors and outdoors through the use of low growing shrubs (with a maximum mature height of 30 inches) and ground covers near buildings and especially under windows.
b. Position thorny or spiny plants under ground floor windows to discourage unwanted access.
c. Keep all plant materials in front of windows pruned to allow clear visibility between the indoors and outdoors.
d. Trees should be limbed up to at least six feet from the base of the trunk for good visibility.
e. Avoid large, dense shrubs directly adjacent to building entrances.

Low shrubs ensure clear visibility to and from windows, and make hiding by this entry difficult.

1.3.5 Plant Installation

Goal:
Follow sound horticultural practices to ensure the health and longevity of plant material, thus enhancing the visual character of Downtown.

Standards:
a. Provide adequate root space for plants, and avoid planting competing plants together.
b. For tree planting, refer to the guidelines outlined by the Urban Forestry Division of the City of Durham's General Services Department.
c. Nearby trees (and multiple plantings) should share root zones when possible. In street tree applications this goal can be accomplished in the form of a continuous planting strip as opposed to individual tree pits or planters. Where access between trees is desired, porous materials may be used as paving.
d. Apply two to four inches of mulch to conserve moisture, restore soil fertility, and reduce the need for fertilizers. Mulching techniques should be appropriate to the plant type and location.
e. Use curbs, tree guards, or other appropriate elements should protect landscape materials at planting. Protective elements should allow for expansion and should be monitored and adjusted over time as tree trunks grow in diameter.



Tree planting diagram

1.3 SITE

A screen wall uses the same material and color as the main building to hide the site's parking.

1.3.6 Screens & Buffers

Goal:
Provide attractive and effective screens and buffers to mitigate the negative impacts of noise and unsightly views.

Standards:

a. Screen unappealing elements with berms, extensive landscaping, fencing, architectural design elements, open space, building orientation, or any combination of these methods. All screening elements should be consistent with the overall design.
b. Landscaping used to buffer noise and views should be evergreen for adequate year-round screening.
c. Provide screening that is architecturally compatible with the building and site design for all exterior trash and storage areas, service yards, loading docks and ramps, transformers, service poles, electric and gas meters, and irrigation back flow prevention devices.
d. Use landscaping to soften and screen built enclosures.
e. Landscape buffer height should effectively obscure the elements to be screened.

1.3.7 Retaining Walls & Fences

SITE 1.3

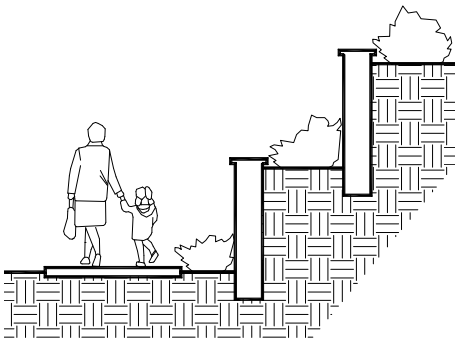
Goal:
Ensure that the design of walls, fences, enclosures, and similar site elements is compatible with the architecture of the main building, and the overall character of Downtown.

Guidelines:

a. Design retaining walls and fencing as an integrated part of the overall design concept, rather than as a separate element on the site. Fencing can be accomplished in the form of a planter wall or as an extension of an architectural wall feature.
b. Locate plant material intermittently along long wall or fence expanses to soften their appearance and provide visual relief.
c. The height, length, and visual impact of retaining walls and screen walls should be visually minimized through the use of landscaping elements.
d. In highly visible public areas where fencing is needed, decorative metal fencing is encouraged.

Standards:

e. Retaining walls and fencing should incorporate materials, elements, or details of the architecture.
f. Terrace retaining walls that require a height over four feet.
g. Walls and fences should minimize visual monotony through changes in plane, height, texture, material, finish, or significant landscape massing. Interest and variety can be provided through the use of offsets, pilasters, columns, and insets, as well as through the artful combination of architectural materials.
h. Uncoated chain link fencing (with or without any type of inserts), razor wire, and barbed wire are not permitted.



Retaining walls over four feet high are made more attractive and pedestrian friendly through the use of terraces and landscaping.

Brick piers mark the opening in the decorative metal fence and relate it to the surrounding architecture. Landscaping on the street side of the fence adds variety and color.

ROADWAYS & WALKS 2.1

FURNISHINGS 2.2

SPECIAL FEATURES 2.3

LANDSCAPING 2.4

LIGHTING 2.5

SIGNAGE 2.6

UTILITIES & SERVICE 2.7

2.1.1 Crosswalks & Intersections

Goal:
Use the ground plane to give dimension and interest to the streetscape corridor and add aesthetic unity to its length.

Guidelines:
a. The paving of streetscape intersections should reflect the intensity of vehicular traffic.
b. Create identifiable ground plane links to the corridor through the use of special paving at major intersections, crosswalks, important building entries and adjacent sidewalks where applicable.
c. Certain streets, which intersect within the Downtown Districts, define important approach vistas and entrances and should be treated specially.
d. When possible elevate crosswalks (and whole intersections) to sidewalk level to calm traffic at key pedestrian intersections.

Standards:
e. Crosswalk pavement shall contrast with adjacent street pavement, be highlighted along the corridor, and be consistent throughout Downtown.
f. Crosswalks shall be a minimum of 10 feet wide with textured borders on each side of a patterned concrete or asphalt infill. The recommended infill is stamped asphalt in a herringbone pattern and terracotta color by Street Print™ or equal. Borders on the intersection side of the crosswalk shall be one foot wide and borders on the street side of the crosswalk shall be two feet wide.
g. The placement of speed humps or raised crosswalks must be in accordance with the City of Durham Speed Hump Policy. Street design and traffic control measures must comply with the City of Durham and/or NCDOT design standards, as appropriate.
h. Crosswalk pavement shall not interfere with regular street maintenance nor present a hazard to bicycle traffic.

2.1 ROADWAYS & WALKS

2.1.2 Sidewalks

Goal:
Use pedestrian paving to define uses along the streets, and distinguish between public sidewalks and private areas.

Guidelines:

a. All sidewalk users should easily negotiate the pavement system. It should be free of unnecessary obstructions and should not be composed of a material that will be dangerous or uncomfortable under any conditions.
b. Sidewalks must be designed to last over time, and require minimal maintenance.
c. The color, pattern, and texture of streetscape sidewalks should indicate an area's use. Greater degrees of detail and richness of material are more appropriate at focal points and intersections, while simple, consistent, homogenous materials are more conducive to movement.
d. Walkways should connect to adjacent properties and nearby trails to promote pedestrian connectivity.
e. Use a change of materials to add visual interest along large or long walkway areas.
f. Sidewalk paving should incorporate the Downtown Districts' thematic logos into its design.

Standards:

g. A monolithic paving surface is preferred for ease of maintenance and safety. Sidewalks shall be concrete with a contrasting textured edge treatment, which may be stamped, patterned, or colored for visual interest.
h. Modular pavements, especially those more historically compatible shall only be used as an accent along the streetscapes, especially in the historic district segments.
i. Asphalt sidewalks are not allowed. Asphalt may be used in off-street applications, such as trails, when stamped and colored to resemble modular paving.
j. Surface finishes shall be slip-resistant in all conditions.
k. All sidewalks should readily drain without ponding and should not be contorted beyond visual correctness in order to drain properly.
l. Sidewalk slopes shall not exceed five percent with cross slopes not exceeding two percent.
m. On roadways that are pedestrian dominant, a minimum eight-foot wide sidewalk is recommended to accommodate greater foot traffic.
n. When possible, sidewalks through open space or parks shall have a minimum width of eight feet to accommodate cyclists. Sidewalks less than eight feet wide should not allow bicycle traffic as part of their use.

2.1.3 Bikeways

Goal:
Incorporate safe and convenient bicycle circulation as an integral part of the Downtown streetscapes.

Guidelines:
a. Accommodations for bicyclists along the streetscape corridor should be made for both the destination cyclist who is passing through, and the neighborhood cyclist using the corridor as a link.
b. Cyclists prefer wide shoulders in the road, or designated bike lanes that permit a relatively efficient route to their destination.
c. Cyclists should not use routes designated primarily for pedestrians.

Standards:
d. At a minimum, an 11-14 foot wide exterior traffic lane should allow for cyclists and automobiles where possible. An 11-foot lane is only acceptable as a bike route where roadway speeds are 35 mph or less.
e. Both shoulders and intersections should be kept relatively smooth and clear of debris to ensure the safety of the bicycle user.
f. Storm sewer grating shall be flush with the street surface and perpendicular to the curb.

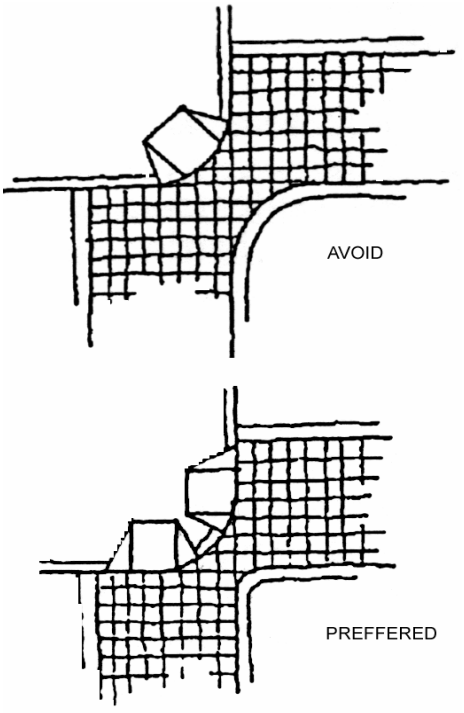
2.1.4 Curbs

Goal:
Use curbs to separate vehicular and pedestrian spaces, as well as to channel surface water to drainage structures.

Standards:
a. In designated historical districts, a modular curb may be installed to match existing curbing. Specialty materials such as granite should be used to highlight the area's distinction.
b. Most curb and gutter will be constructed of concrete. Exact specifications should be coordinated with the City of Durham.
c. Extruded asphalt or concrete ribbon curbing is not allowed anywhere.

2.1 ROADWAYS & WALKS

2.1.5 Accessibility & Ramps



Accessible curb cuts.

Goal:
All pedestrian sidewalks must be barrier-free at intersections.

Guidelines:

a. Ramps should be integrated into the surrounding site elements and not added as an accessory feature.

Standards:

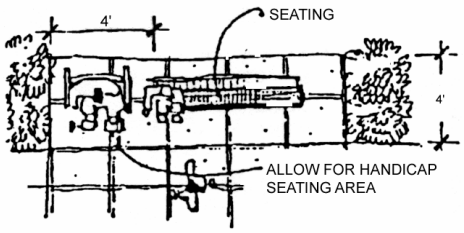
b. The surface finish and color of ramps shall be distinct from other paved surfaces to communicate a change of grade to the user. Concrete ramps are preferred.
c. Surface finishes and materials shall be slip-resistant under all conditions.
d. Where sidewalks intersect curbed roadways, drop curbs shall be provided. If space permits, the grade of the entire walk should be dropped to meet the grade of the roadway.
e. The sides of the ramps shall be tapered according to code to provide minimum obstruction for sidewalk traffic.
f. Ramps that direct users toward the center of an intersection are not to be used. Ramps shall be located at each crosswalk section. All crosswalks should conform to standards set by the City of Durham and applicable ADA codes.
g. Ramps shall provide top and bottom landings with slopes not to exceed two percent. The ramp slope must not exceed limits set by the governing codes or Durham City Standards

2.2.1 Incorporating Furnishings

Goal:
Incorporate site furnishings throughout the Downtown Districts since they play an important role in the overall visual quality and identity of the streetscape.

Guidelines:
a. Site furnishings should be universally accessible wherever possible.
b. Sidewalk clutter such as freestanding newspaper racks is discouraged.
c. Furnishings should be compatible with the characteristics of the segments of the Downtown Districts and the other site elements of the corridor. In the various Downtown Districts, historic elements can be considered although consistency within each district is recommended.

Standards:
d. Furnishings shall be durable and of high quality. Materials for site furnishings should be chosen for maximum strength and durability, and should require as little maintenance as possible.
e. A timeless appearance is recommended to be inviting for all users.
f. Surface finishes should weather and age gracefully. Accents in the form of hardware, etc. may require additional maintenance beyond the recommended minimum.
g. Color shall be impregnated into metal surfaces.
h. Recommended materials include aluminum/cast aluminum, stainless steel, and cast iron, finished with polyester based paint.
i. Combine streetscape furnishings wherever possible to create pleasant, comfortable places to stop out of the path of pedestrian traffic.
j. Locate furnishings in areas that take advantage of significant levels of activity to allow for natural surveillance of the area.
k. Concentrate special elements at entrance nodes, neighborhood gateways, intersections, and within linear parks and open space opportunities within the Downtown Districts.
l. Consider street side clear recovery areas for errant vehicles in locating all street furnishings, including poles and plantings.



Include universally accessible seating areas.

Combine streetscape furnishings to create comfortable spaces out of the flow of pedestrian traffic.

2.2 FURNISHINGS

2.2.2 Banners, Flagpoles, & Medallions

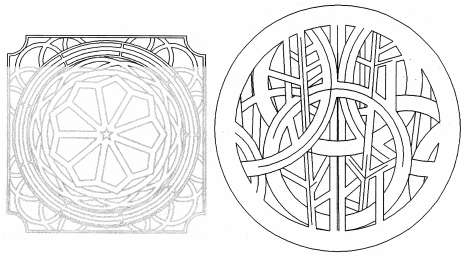
Goal:
Include banners, flagpoles, and medallions along the streetscape to bring unifying elements, colors, patterns and movement to the Downtown Districts.

Guidelines:

a. Banners may include many items of various shapes such as windsocks and flags.
b. Banners may be hung from walls or any structural element of sufficient strength in accordance with City standards.
c. Medallions may be fabricated in various shapes and sizes from building or lamppost buttons to tree grate or pavement buttons to utility or drain covers in accordance with City standards.

Standards:

d. Provide top and bottom attachments as well as spring-loaded arms and/ or vent drafts to add to the longevity of banners since surface area and attachments are typically difficult structural problems when hanging them.
e. Use marine canvas and/or vinyl fabric for banners as these fabrics withstand prolonged exposure to the sun, allow air movement through them, are long lasting and easy to maintain.
f. Flagpoles shall not be located within public rights of way. Flagpoles shall be cone tapered, aluminum, and ground set. Poles shall be finished in Black.
g. Medallions shall be cast iron to stand up to both vehicular and pedestrian traffic if cast in pavement.
h. Medallion colors shall contrast those used in the furnishings and light poles.
i. Mount medallions on light poles at a minimum eight-foot height or cast in sidewalks at intersections to accentuate an area, in accordance with City standards.
j. Use banners at focal points or in areas that need a colorful accent or emphasis, such as intersections.
k. Select banner locations for vandal resistance.
l. Minimum clearances shall respect both vehicular and pedestrian traffic needs.
m. Locate flagpoles with sensitivity to the surrounding area.
n. Medallions, banners, flagpoles, and flags shall not block important views or circulation paths.



Decorative medallion examples.

2.2.3 Bicycle Racks

Goal:
Provide bicycle racks in applicable areas throughout Downtown to allow cyclists to lock their bikes and participate in the area's activities.

Guidelines:

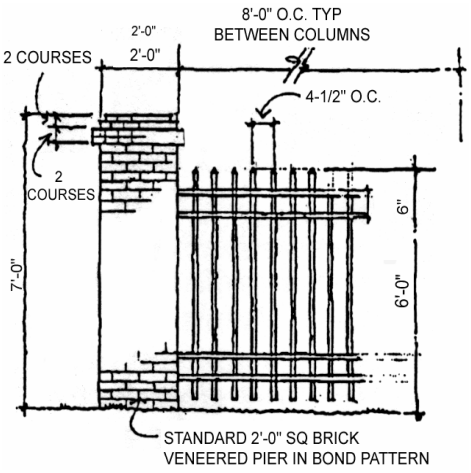
a. Bicycle racks should be installed at logical locations such as entrances to buildings and in linear parks where the width of the sidewalk is great enough to accommodate their placement without interfering with pedestrian passage.
b. Simplicity in bicycle rack design is encouraged. Such racks should have minimal visual impact unless they are designed as functional art objects. Unique and creative bicycle racks are encouraged in areas of special interest.
c. Bicycle racks may be integrated with light standards or with other site elements to reduce their occurrence and visual impact.

Standards:

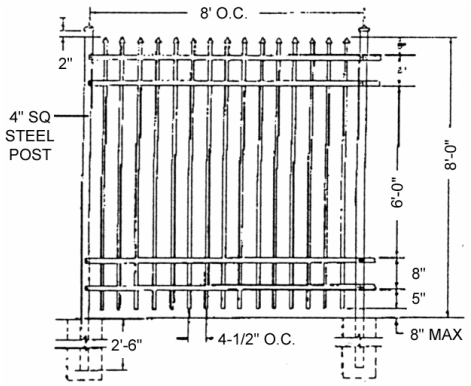
d. Recommended materials for bicycle racks include heavy gauge welded steel and aluminum. All parts shall be finished with a black semi-gloss polyester powder coat finish. Suggested bicycle racks are those of a u-shaped tubular design such as DuMor #83 or equal.
e. Bicycle racks shall be spaced according to the standards in section 9.3.2 of the City of Durham Zoning Ordinance.
f. Bicycle parking shall meet the requirements of section 9.4.2 of the City of Durham Zoning Ordinance.
g. Locate bike racks in areas of high activity to discourage thefts and to provide opportunities for their surveillance.
h. Situate bike racks outside of pedestrian paths.

DuMor Bike Rack 83

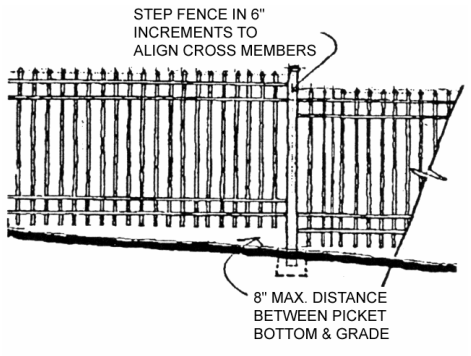
2.2 FURNISHINGS



Fence combined with brick columns.



Recommended tubular steel fence panel with pickets in eight-foot sections.



Fence panels should step down in 6" increments to align cross members.

2.2.4 Fences

Goal:
Employ fences to separate uses, define entrances, screen unsightly views, and provide safety and security in the Downtown Districts.

Guidelines:

a. The use of fences as screening material is required for service areas.
b. Whenever possible, combine fences with other elements such as plant materials, columns, and walls.
c. Fences should be considered an extension of the adjacent structure or architectural element, and the materials should be compatible.
d. Locate fences to be sensitive to the surrounding area.

Standards:

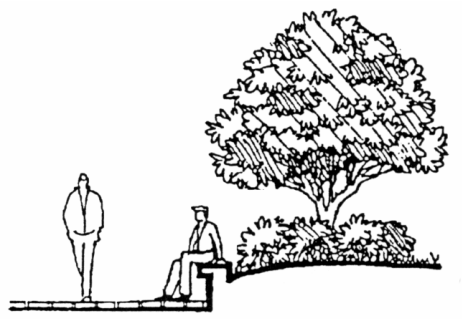
e. Materials and detailing shall provide maximum durability.
f. Fences shall not block important vistas, views or impede clear visibility into a site from the street. Fencing with opacity of 65 percent or greater shall be limited in height to 42 inches when located on the street side of buildings or along public sidewalks or easements. All other fencing shall not exceed six feet in height.
g. Decorative metal fencing is preferred in areas where transparency is desired and security is necessary. Tubular steel and aluminum are both acceptable materials.
h. Chain link fence and razor wire are not allowed.
i. The traditional picket style, in eight-foot panels, should be used throughout most of the Downtown streetscapes.
j. Powder coated paint in black semi-gloss finish shall be used on all types of metal fencing.
k. In areas where grade change occurs, fence panels shall step down in six-inch increments to align cross members.
l. The maximum distance between the bottom of picket and grade shall be eight inches.

2.2.5 Walls & Columns

Goal:
Use walls and columns in the Downtown landscape to create overlooks, facilitate views, provide screening, separate uses, provide physical barriers, and act as seating.

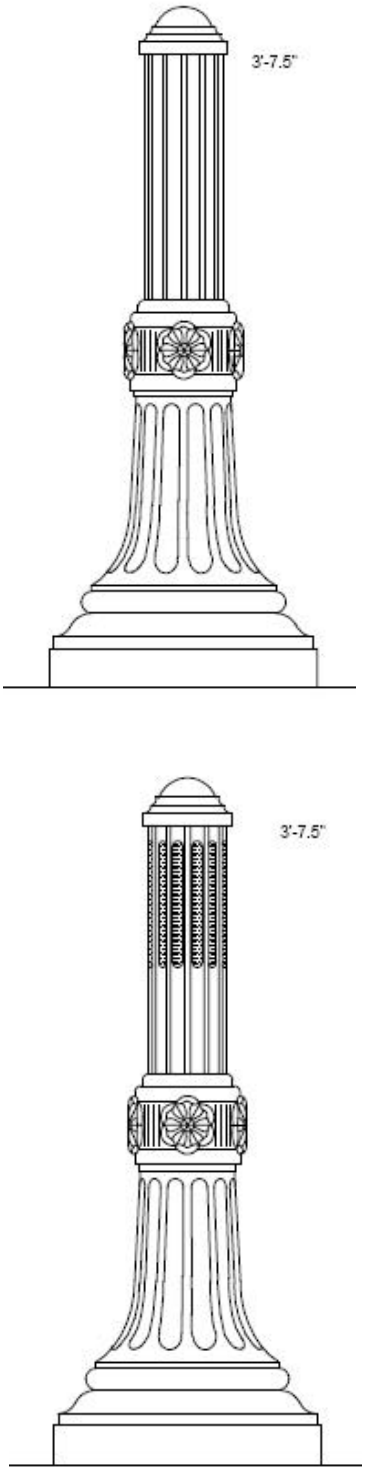
Guidelines:
a. Introduce columns along the streetscape to identify entries and intersection corners, break up long segments of fencing, and act as backdrops for signage.
b. Screening walls should not be obtrusive. Height and proximity of the wall to the used area should not be imposing. Columns may be of a larger scale since they act as a focal point in most instances. Columns used in conjunction with fencing should be scaled to correspond to each other.
c. Where possible, use plant materials and berms in combination with the wall to create focal points and emphasis, and guard against a blank facade turned toward a pedestrian area.

Standards:
d. Low walls that are expanded into seating areas shall generally be 24" high, by a minimum 12" width to utilize the top of the wall as a seat. The seating surface should be pitched 1/8" per foot to facilitate surface water run-off. Dividers should be incorporated wherever possible.
e. Wall and column materials shall be durable and relatively maintenance free. For most streetscape segments split face block or brick is acceptable. Walls in the Downtown Districts should be more historic in context, picking up brick and stone components.
f. Where walls extend out from a structure, as in the case of screening service areas, the walls shall be compatible with the building style, color, and materials.



Well-proportioned low seating walls are encouraged, especially when combined with plant material and berms.

2.2 FURNISHINGS



Unlighted (top) and lighted (bottom) North Yorkshire bollards by Holophane

2.2.6 Bollards

Goal:
Design bollards to be both functional and aesthetically pleasing, with their main purpose to discourage vehicular intrusion into a pedestrian area.

Guidelines:

a. Bollards should be consistent with the rest of the streetscape furnishings and architecture, and in harmony with the Downtown Districts themes.

Standards:

b. Throughout downtown use the North Yorkshire dome-topped cast aluminum bollard by Holophane in black finish (unlighted model BOL/CH44/12/DT-CA/BK; lighted model BOL/CH44/12/DT/L-CA/BK-M70). Other types of bollards are acceptable for temporary applications only.
c. Lighted bollards shall use 70 watt metal halide lamps.
d. Bollards shall be 30-45" in height and be anchored to the ground. Removable bollards to allow vehicular access are allowed provided that they are sleeved and have a locking mechanism.
e. Location of bollard shall consider emergency access. Removable bollards should be considered for these applications or where accesses are closed off for special events.
f. Bollards that house electrical receptacles shall provide 120 volt service.
g. Bollards may include eyebolts for cordoning off areas. Chain used with bollards shall have a black finish.

2.2.7 Planters & Flower Pots

Goal:
Incorporate planters and flower pots to visually enhance a space and provide areas for landscape relief, as well as to reduce or accent an architectural mass.

Guidelines:

a. Employ a xeriscape-type landscape whenever possible. (It is an environmentally sound landscape requiring less fertilizer, fewer chemicals, and less maintenance, and capable of reducing outdoor water consumption by up to 50 percent without sacrificing the quality and beauty of the environment.)
b. Locate planters and pots outside of building entries, or within close proximity to entrances, to facilitate maintenance and surveillance.
c. Maintenance of accent plant materials in public or private pots or planters is the responsibility of the private sector.
d. Locate pots of size in areas with natural surveillance to discourage theft.
e. Planters should be designed with careful consideration of the plants to be used.
f. A variety of plant material is encouraged for use in planters: annuals, perennials, herbs, shrubs of appropriate size, or any combination are acceptable options.

Standards:

g. Provide planters with irrigation and drainage as well as hose bibs in case of irrigation failure.
h. When planters are incorporated into architectural design, their drainage shall be tied into the structure's roof drains. In this enclosed bottom application, the use of a lightweight soil-free growing medium combined with soil filters and lightweight drainage layers will be necessary.
i. Pots shall be heavy in appearance and character to discourage vandalism and theft. Pots can be bolted to pavements through their drain holes.
j. All planters shall be waterproofed, and have a porous material over the drain hole to prevent the soil from leaking out.
k. In Downtown use the round Galveston planter by Dura Art Stone with a heavy sandblast terra cotta finish (in various sizes).
l. The planting of trees in planters is not allowed.

Round Galveston Planter by Dura Art Stone

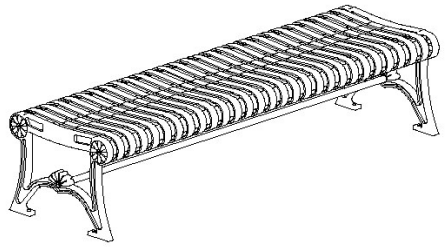
2.2 FURNISHINGS

2.2.8 Seating

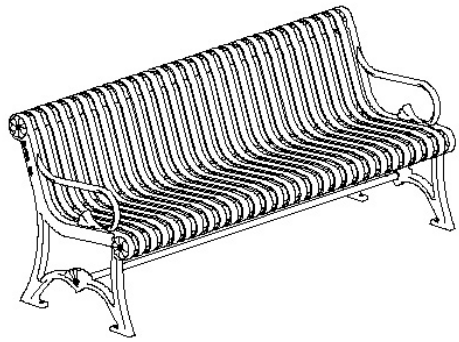
Goal:
Integrate convenient seating into the streetscape design throughout Downtown to provide places to sit, people watch, admire the surroundings, rest, and wait for buses.

Guidelines:

a. Provide a variety of seating along the streetscape corridors and in pocket parks and plazas. Locate sheltered seating near transit stops.
b. Seating should accommodate activities that require the use of a table.
c. Seating should be an appropriately scaled integral part of the streetscape furnishings.
d. Concentrate seating at pedestrian congregation points within open space or activity areas such as bus stops to allow for maximum use and security.
e. Ground floor uses that provide outdoor seating are strongly encouraged.



DuMor Bench 92



DuMor Bench 58

Keystone Ridge Pullman Table Set P6-2SQ

Standards:

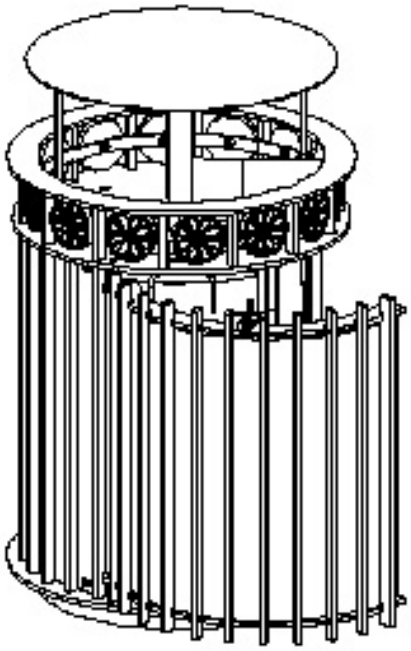
f. In urban public spaces seating shall be provided at the rate of one linear foot of seating for every 40 square feet of public space. Moveable chairs will count as 2.5 feet of seating each. Seating must be 12 to 30 inches high, and a minimum of 15 inches deep. Seating to accommodate users on both sides must be at least 30 inches deep.
g. Ledges and walls may count as seating provided they meet these requirements of 2.2.9f of this chapter, and are not obstructed by landscaping. Planter or retaining walls used for seating shall meet 2.2.5d of this chapter.
h. Steps whose width exceeds that required by code, and are not obstructed by railings may also count as seating provided they meet the requirements of 2.2.9f of this chapter.
i. Incorporate middle armrests whenever possible.
j. Use heavy cast aluminum and cast iron as seating materials. Finishes of a durable polyester polymer based coating in black semi-gloss finish are required to ensure longevity and minimize deterioration.
k. Throughout Downtown use the DuMor Bench #92 or DuMor Bench #58 with center armrest or equal in black finish.
l. Seating in parks and plazas should incorporate a tabletop and be universally accessible. Use the Keystone Ridge Pullman Table Set P6-2SQ or equal in black finish.

2.2.9 Trash & Recycling Receptacles

Goal:
Select receptacles to be complementary to other streetscape furnishings, and be simple in design to minimize their visual impact on the streetscape.

Guidelines:
a. Receptacles for hand trash and recyclables should be conveniently located along the streetscape and in all pedestrian gathering spaces, yet be visually unobtrusive.
b. Priority locations for recycling containers include near restaurants, in parks, at bus stops, in areas of concentrated commercial activity, and along major pedestrian routes.

Standards:
c. In urban public spaces that contain, adjoin, or are within 500 feet of a restaurant or retail a minimum of one each of a recycling and trash receptacle is required for every 2000 square feet of public space area, or portion thereof. In all other urban public spaces one of each receptacle shall be required per 5000 square feet or portion thereof.
d. Use the 32-gallon DuMor 64-332 with bonnet or equal throughout Downtown. These receptacles may be fitted for trash only or trash and recycling use.
e. Receptacles shall be formed in steel construction with a powder coat finish in black semi-gloss finish.
f. Receptacles shall be bolted through their bases to the sidewalk or paved surface below.
g. Receptacles shall have hinged, key locked doors and rigid, removable liners. Receptacles for trash and recyclables shall have labels appropriate for the contents.
h. Receptacles shall have regular and frequent pickup. Depending on the pickup schedule, receptacles may have to be waterproofed against rain.
i. Lids may be mandatory as a means to control unpleasant odors in the heat and as a deterrent for animals and for rain protection.



DuMor Trash/Recycling Receptacle 64-332

2.2.10 Traffic Signals

Goal:
Replace traffic signals on overhead wiring with mast arms that extend out over the traffic lanes to improve the visual quality of the Downtown streetscapes.

Guidelines:
a. Mast arms should incorporate as many nearby streetscape elements as possible, including lighting, signage, and other street amenities in accordance with City standards.
b. Mast arms shall be in scale with the streetscape and readily visible, but not dominating.

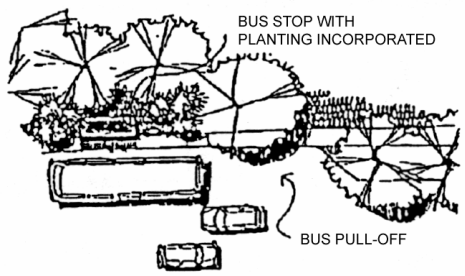
Standards:
c. Mast arms shall consist of a smooth signal arm mounted on a 16-fluted pole with the Huntington base by Valmont or equal. The Memphis teardrop luminaire on the Atlanta cross-arm, both by Holophane or equal, shall be used atop the mast arm's pole. The mast arm specification, including pole and luminaire height and arm length, should be confirmed through the City of Durham's Transportation Division.

2.3.1 Transit Stops

Goal:
Incorporate transportation stops as integral and attractive streetscape elements.

Guidelines:
a. Locate transit stops near activity zones, especially near the commercial and institutional zones.
b. Locate transit stops near major building entries and provide convenient pedestrian access between transit stops and building entries as part of the overall pedestrian circulation network.
c. Reduce and consolidate the number of stops.

Standards:
d. Transit stops shall be consistent in design throughout Downtown, be compatible with the overall streetscape, and have a standard theme to promote instant recognition.
e. Transit stop facilities shall include, at a minimum: shelter from the rain and sun, seating, lighting and good visibility for easy surveillance.
f. Site transit stop shelters to minimize interference with pedestrian flow along the street.
g. Include curb cuts at transit stops for accessibility.



Incorporate bus stops into the overall streetscape design.

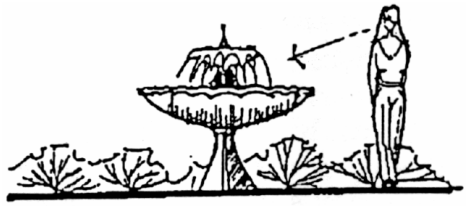
2.3.2 Public Art

Goal:
Encourage the inclusion of public art in building plazas, parks, major intersections or courtyards.

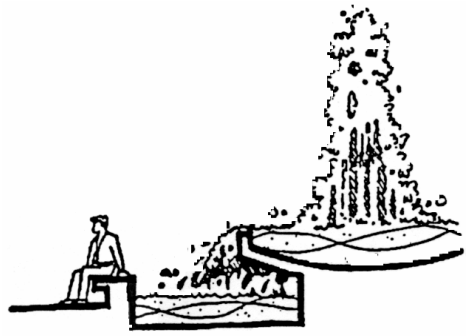
Guidelines:
a. Areas targeted for public art placement as recommended by the Master Plan include intersections, especially at Five Points, public/private "pocket" parks and plazas and other focal points.
b. The scale and character of the art element needs to harmonize with its surroundings.
c. The need for durability is of prime importance. Materials that weather gracefully are the only ones that should be considered.
d. Participatory art can serve as play areas for children, while not appearing as an unused "tot lot" when vacant.
e. Creativity in design and selection of public art is encouraged.

2.3 SPECIAL FEATURES

2.3.3 Fountains



Fountains can direct attention to and create a positive image for an area.



Fountains are encouraged in private developments only.

Goal:
Use pools and fountains to mask noise, direct attention, cool small areas, create focal points, add valuable accents to the setting, provide a sense of refreshment and relaxation, and create other positive images.

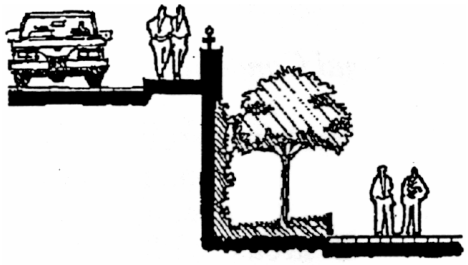
Guidelines:

a. Fountain design should consider, among other characteristics, the size of effect versus the size of the space, and the distance of the viewer to the water.
b. Visual aesthetics should be carefully considered in the design of the fountain, which should remain appealing when the fountain is not functioning.
c. In specific instances, the use of water in a variety of forms is possible to create a focal point in a given area within the Downtown Districts.

Standards:

d. Fountains may be considered only when coordinated and maintained by private sector developments.
e. Fountains shall not be located within the public right of way.
f. Fountain mechanical equipment shall be remote and completely unobtrusive within the Downtown Districts' environment. Exposed motors, piping and electrical parts are not acceptable. Electrical codes designed for safety (low voltage, ground fault interrupt circuits, etc.) should all be utilized.
g. Durable, solid materials shall be used for containment.
h. Color selection, lighting, and finishes shall be judged on a case-by-case basis.
i. Display fountains used as focal points shall be placed to avoid interference with circulation.

2.3.4 Bridge Abutments



Pedestrian scaled landscaped bridge abutment.

Goal:
Minimize the visual impact of bridges through the addition of human scaled landscape elements.

Guidelines:

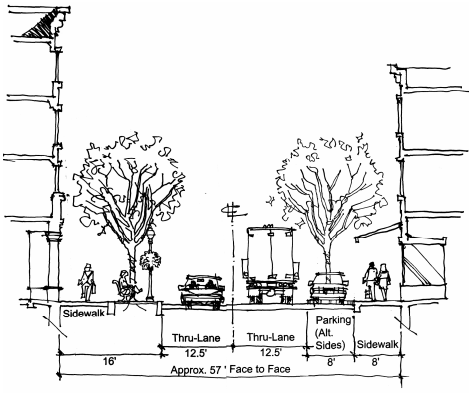
a. The ground adjacent to bridge or overpass abutments should be heavily planted to reduce their mass.
b. Use plantings to provide some vertical and landscape relief to the road at the top of bridges or overpasses.
c. Keep abutment plantings consistent with the overall scale of the other streetscape elements.

2.4.1 Landscape Design

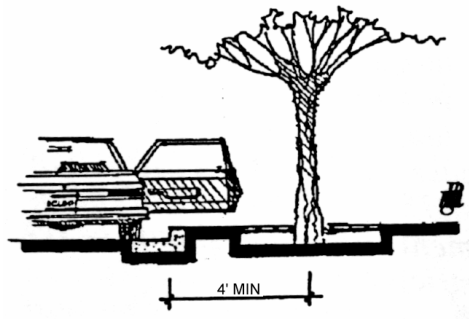
Goal:
Design landscaping to contribute to the livability of the environment, and use plantings to modify the climate for the user, screen, enclose, or emphasize views, help to direct user circulation, and when sensitively located, help to avoid security problems.

Guidelines:
a. Planting should be used in conjunction with physical screening to soften service and parking areas visible from the streetscape.
b. Since the correct choice and placement of landscape materials will make a definitive difference in whether the streetscape corridors are comfortable spaces year round, plant materials should provide shade in the hot summer and create sun pockets in the winter.
c. Tree placement should be planned with daily and yearly sun patterns in mind and adjacent building facade locations.
d. On streets with continuous block faces, trees should be planted in front of party wall joints.
e. Avoid planting a single dominant species.
f. Streetscape plantings should be diverse in terms of placement, yet simple in terms of palette.

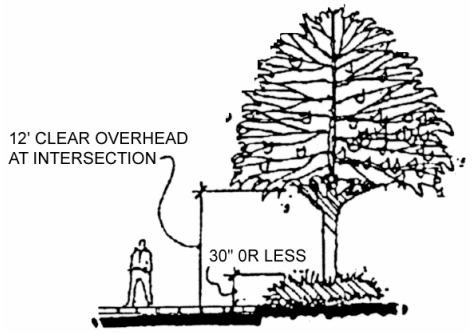
Standards:
g. Plantings along streets with parallel parking should consider the door swing of a vehicle stopped at the curb. Plant material shall not interfere with easy door opening.
h. Plantings may be concentrated at intersections, but because visibility is paramount for both vehicular and pedestrian safety, plant material should not restrict the view of approaching vehicles. In sight triangle areas, no shrubs over 24 inches in height or trees with less than 12-foot clear trees should be planted. Street trees should be set back per local and state codes. No planting of shrubs should occur between back of curb and sidewalk.
i. Planting areas shall drain within themselves, not onto paved pedestrian surfaces. Underground drainage piping from planters and yard inlets should tie into storm sewer lines, where possible.
j. Intersections and fire hydrant locations are two areas where special attention should be paid to planting. In case of fire, no obstruction should be in the path of equipment. Restrict plantings around hydrants.
k. Incorporate Crime Prevention Through Environmental Design (CPTED) principles in landscape design. Refer to 3.4 in Chapter 1 of this section.



Typical streetscape cross-section.



Plantings along roadways should consider the door swing of a vehicle stopped at the curb.



Maintain visibility through plantings to ensure pedestrian and vehicular safety.

2.4 LANDSCAPING

2.4.2 Composition

Goal:
Select and arrange plant material and other landscaping elements to add variety and visual interest while maintaining a unified streetscape image.

Guidelines:

a. In any plant composition, there should be a predominance of material, color, or texture to provide unity.
b. Accent material, used in mass or singularly, should be introduced to play against the dominant material and create contrast.
c. Flowering trees are encouraged in areas of special focus. Since most flowering trees are also deciduous to varying degrees, they should not be used for screening or where maintenance is a problem.
d. Avoid the use of plants that routinely release juicy berries. Such plants are acceptable in a park setting, but are not appropriate for the public streetscape. To minimize the negative impacts on people and cars, and to ease maintenance of the streetscapes, give preference to plants with persistent fruits.
e. Below eye level, shrubs and ground covers are encouraged, as they contribute to the variety and interest of the landscape through contrasting variations in form, texture, and seasonal color displays.
f. Ground cover plants, which form low, spreading mats that require little maintenance, are encouraged to provide a visual richness, especially when viewed up close.
g. Under-planted ground covers as well as other under-story plantings are not recommended beneath trees in the Downtown Districts. The avoidance of under-planting minimizes the competition of roots for water and nutrients in a confined space.

2.4.3 Plant Material Selection

Goal:
Promote the installation of streetscape plantings of the highest caliber to ensure a healthy and attractive urban landscape.

Guidelines:

a. The land uses, rhythm, and character of each segment dictate the plant character for each segment. Plant character and selections can be found on the recommended list of Streetscape Plant Selections, included in Appendix B.
b. Avoid the combination of container grown and balled and burlapped plants in the same planting area, as the container grown plants will out compete the others.
c. Avoid the combination of plants with differing cultural requirements in the same planting area.

Standards:

d. Trees shall be selected from the Recommended Tree Species for Downtown Durham list found in Appendix B.
e. Trees shall be chosen to be appropriately scaled for the specific site and application.
f. No more than six to eight species of tree plantings are recommended within each District. Two to three species should be used as the dominant street trees and the others to emphasize intersections or provide a pattern.
g. Use two to four inches of organic mulch with a maximum of four inches in all plant beds.
h. Use only one type of mulch within a single planting area. Acceptable types of mulch include shredded pine bark, cypress bark, and pine straw.
i. Installation size for plant material shall meet the following minimum requirements: trees minimum 2-1/2" caliper, shrubs three-gallon.
j. All plant material shall meet or exceed standards set by the American Association of Nurserymen, Inc. (A copy of these standards is available for viewing in the Durham City-County Planning Department.)

2.4 LANDSCAPING

2.4.4 Irrigation

Goal:
Establish and maintain a "green" appearance throughout the corridor and reduce the amount of maintenance through the installation of irrigation systems.

Guidelines:

a. Landscapes should be irrigated with a properly designed irrigation system to cover all plant material along the streetscape.
b. The principle of xeriscaping should be used as a factor in the planting design of the streetscapes. Plants capable of adapting to seasonal moisture fluctuations are preferred over those requiring large volumes of water.
c. Annuals, trees, shrubs, ground covers, perennials, and lawn areas all have special irrigation needs, and should run on separate zones. Likewise, sun and shade areas should be separated wherever possible.

Standards:

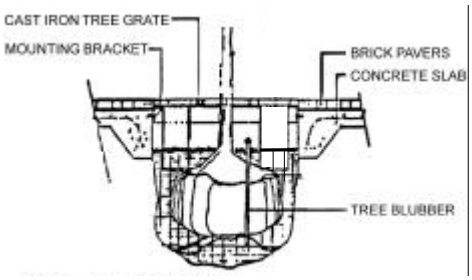
d. All plantings shall have irrigation systems providing 100 percent coverage throughout the planted area where feasible. Irrigation systems shall be capable of distributing 1½" of water per week during a maximum eight-hour watering cycle. All irrigation systems shall be completely automatic, and be equipped with rain sensors for water conservation.
e. Irrigation shall be designed to avoid overspraying pedestrian areas. For confined planting areas, emitter systems or underground drip systems are preferred.
f. Irrigation shall be directed to not over spray onto the right of way.
g. Distribution shall be designed to minimize overspray onto buildings and site structures. Discoloring of facilities due to irrigation overspray is not acceptable anywhere.
h. All irrigation systems shall be permanent with no plug-in heads allowed. Removable heads are discouraged due to the manpower required for operation.

2.4.5 Tree Planting

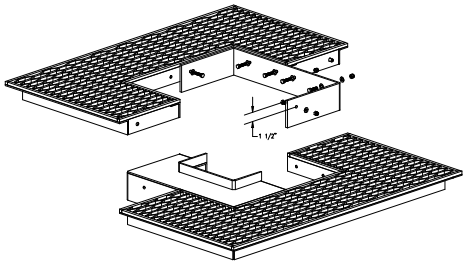
Goal:
Ensure an adequate presence and the long life of urban trees through the installation of appropriate trees and planting systems, which protect the root structure of the tree, especially in paved areas with heavy pedestrian traffic.

Guidelines:
a. Street surface treatments around trees should be compatible with the character of the surrounding area.
b. Street tree planting in the right of way is strongly encouraged where appropriate.
c. Tree groupings are preferred over evenly spaced rows of trees.
d. Trees should be concentrated to create focal points as well as given priority locations in front of or near residential units.

Standards:
e. In urban public spaces one tree shall be planted for each 1000 square feet of public space. Planting shall be in conformance with the guidelines of the Urban Forestry Division of the City of Durham's Public Works Department. Refer to 2.4.3 in this chapter for plant material selection.
f. Tree plantings in paved areas shall be accommodated with porous surrounding surfaces that allow water to reach the roots of the plantings.
g. Porous pavement such as paver systems on sand are encouraged, especially in tight areas around canopy trees.
h. Pavement suspension systems are highly recommended for tree plantings. Suspension systems consist of a below grade metal tree grate (with an expandable opening) which supports modular or otherwise porous paving at the sidewalk level. The Paver-Grate™ Suspension System 20 by DuMor or equal is recommended.
i. Tree grates with small enough openings to be walkable (no greater that ½" in any direction) shall be removable to eliminate trash that accumulates underneath.
j. All tree grates and porous paver systems shall meet ADA standards.



Metal tree grate installation.



DuMor Paver-Grate Ô Suspension System 20

2.5.1 Illumination

LIGHTING 2.5

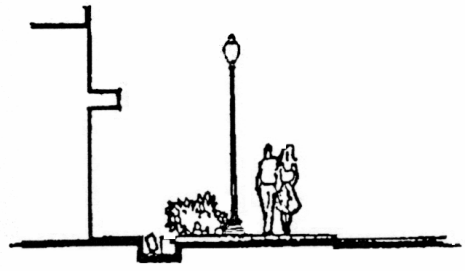
Goal:
Use streetscape lighting to provide appropriate light for vehicular and pedestrian safety throughout the Downtown Districts.

Guidelines:

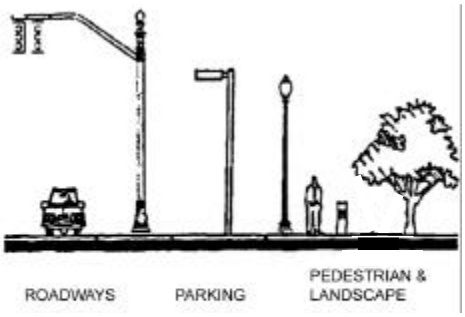
a. Lighting should provide a sense of security for pedestrians to ensure that the streetscapes do not act as a deterrent from walking along the Downtown Districts.
b. Lighting sources along the sidewalks and roadways should be bright and numerous enough to avoid the creation of dark spaces which could be perceived as threatening.
c. Lighting should be hierarchical. Fixtures should vary in type and intensity based on the corridor and its primary function.

Standards:

d. Control light to avoid glare and minimize unwanted light trespass onto adjacent properties.
e. Consider the proper relation between the scale of a fixture and the function of the corridor. In general, primary vehicular areas will have higher mounting heights than pedestrian areas, in accordance with the City of Durham, Duke Power, and NCDOT regulations.
f. The use of timer-activated photocells is required for all lighting to reduce the cost of operation.
g. All street and pedestrian lighting shall be in accordance with AASHTO standards and the city of Durham Street Lighting Policy.
h. Pedestrian lights shall be spaced appropriately to provide adequate pedestrian lighting. Pedestrian lighting may be required on one, both, or alternating sides of the street.
i. Lock box outlet receptacles shall be included at the base of poles and in planters for holiday lighting if in accordance with City of Durham policy.
j. Lighting may not be permanently or temporarily attached to, wrapped around, or aimed up at trees. These lighting techniques interrupt the natural photoperiod of trees and can cause girdling.
k. Acceptable accent lighting options, in lieu of tree lighting, include architectural lighting which highlights features without uplighting structures, heavy duty light strands which outline structures, special lighting at fountains and public artworks, bollard lights at seating areas and bicycle racks, and low-voltage decorative landscape lighting whose only underground component is wiring and does not aim light upward.



Streetscape lighting should provide for pedestrian safety and aesthetics.

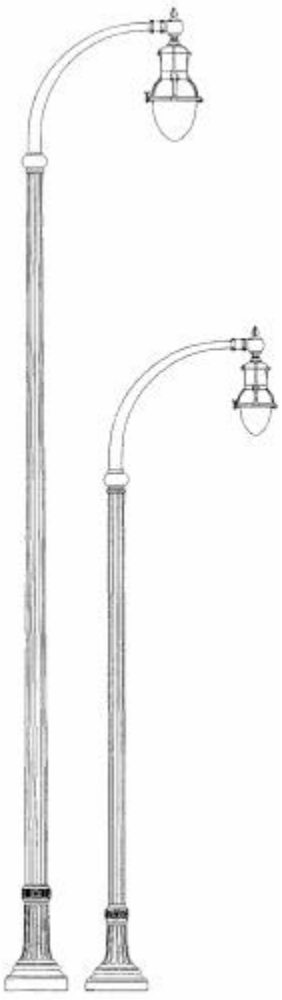


The light fixture should be proportioned to correspond to the scale of the function it serves.

2.5 LIGHTING

Select light fixtures based on a balanced consideration of the following:

- *Compatibility with existing sources*
- *Availability*
- *Initial output vs. Long-term output*
- *Quality of fixture in terms of*
- *materials, lens, construction, etc.*
- *Longevity*
- *Ease of maintenance*
- *Aesthetics*
- *Initial cost vs. Long term cost*



Light fixture configurations for downtown. For mounting heights and specifications refer to the City of Durham's Street Light Administrator.

2.5.2 Light Fixture Selection

Goal:
Elevate the aesthetic quality of streets through the selection of appropriate light fixtures.

Guidelines:

a. Fixture size should be in proportion to the height of its pole to avoid awkward proportions.
b. Light fixtures and poles should be timeless in style, reflecting a sense of permanence.
c. Fixtures should be both economical and durable, of heavy weather quality, and U.L. rated for wet locations.
d. Metal halide is recommended in people spaces because it illuminates with very true colors.
e. Mercury vapor, incandescent, and halogen are acceptable light sources, and should be used primarily in low voltage situations where efficiency is not critical, or to accent landscape material because of its ability to emphasize green foliage.
f. During daylight hours, lighting fixtures should blend into the landscape and coordinate with other site furnishings.
g. Coordinate site lighting elements for uniformity within a development. Such elements may include light poles, bases, lamps, bollards, and building mounted fixtures.
h. Design lighting within parking structures to avoid off-site views of long lines of exposed fluorescent tubes.

Standards:

i. Light fixtures shall consist of the Memphis teardrop luminaire on the Atlanta cross-arm, mounted on the North Yorkshire pole all by Holophane or equal. Refer to the City of Durham's Street Light Administrator for the specifications, including mounting heights.
j. Light fixtures and poles outside the right of way shall be consistent with Standard 2.5.2i of this chapter. Although aluminum, cast iron, and concrete are appropriate material choices, cast aluminum is recommended for its low maintenance, long life, and pleasing aesthetics. Cast aluminum fixture fittings shall be stainless steel.
k. The lighting source and output choice is dependent on the City of Durham, Duke Power, and NCDOT.
l. All poles and fixtures, including existing highway and thematic poles, shall have a uniform black semi-gloss finish.
m. All fixtures shall be fully shielded to direct light downward. Uplighting is not allowed.

2.6.1 Signage Program

SIGNAGE 2.6

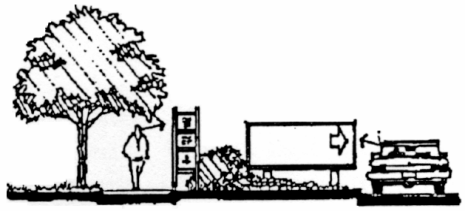
Goal:
Establish a simple, coordinated signage and graphic system for the streetscapes to harmonize with the image of the Downtown Districts' and the City of Durham.

Guidelines:

a. The recommended size for special signage along the streetscapes varies depending on how it is to be viewed. Signs to be viewed from a traveling automobile should be larger than signs in the pedestrian environment.
b. Streetscape signage materials should be compatible with the Downtown Districts' themes, and consistent with streetscape elements.
c. Building mounted signs should be integral to the architecture, and proportional to the structure.

Standards:

d. The City of Durham, NCDOT, and City and County standards shall govern regulatory signage along the corridor. However, modifications to improve the appearance of standard signage within regulation should be pursued.
e. All signage located in the right of way must be approved by the Transportation Division of the City of Durham and NCDOT where appropriate.
f. Frame materials shall be cast aluminum or tubular steel with a powder coat finish. Sign faces shall be finished with porcelain enamel for performance.
g. Most streetscape signage will be mounted in pavement. However, in cases where signage is placed in a soft surface such as a planting bed, sign standards shall have a hard surface base to reduce grass trimming and potential damage from lawn mowers and/or weed trimmers.
h. Window signs shall cover no more than 25 percent of the glass area with opaque materials.
i. Signs shall not be designed to be in visual competition with other signs in the area.
j. The light source of externally illuminated signs shall not be visible or create glare.



The type and style of graphics should be oriented to the type of viewer and use.

Wayfinding System

A coordinated graphic system will be used for all the public signs along the Downtown Districts' streetscapes (excluding official regulated signage). The signage system will employ a consistent standard for size, location, typeface, color and materials to unify and enhance the overall visual quality of the streetscape and ensure compatibility and consistency during implementation and when it is expanded or revised.

As details of this signage system are determined they will be added to this section.

2.6 SIGNAGE

2.6.2 Legibility

Goal:
Use signage and graphics to functionally communicate information while aesthetically tying into surrounding site elements as well as the Downtown Districts.

Guidelines:
a. The same palette of colors should be used for all the sign faces and standards throughout the streetscapes.
b. Lettering should generally appear in the same place on all signs, to communicate a consistent graphic system.
c. Symbols, logos, and graphic devices such as arrows should also be consistent among all the signage types.

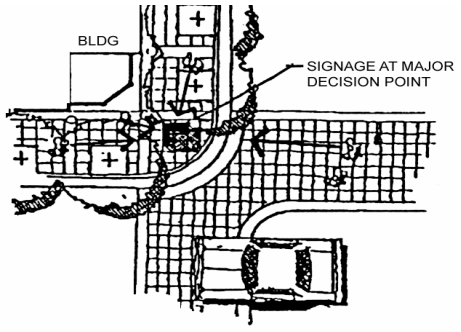
Standards:
d. Use one basic typeface and boldness for sign lettering.
e. Use horizontal lettering because it is more easily readable than vertical type.
f. Sign backgrounds and images shall have enough contrast to be readable. Framing and bases shall be black to match light posts.
g. Major informational and directional signs shall be lighted at night, or at least, be reflective.
h. Written messages on streetscape signage shall be brief and concise, using as few words as possible.
i. To increase readability, use as many graphic symbols as possible in place of words.

Downtown Signage Colors by District

DOWNTOWN DISTRICT	PANTONE® COLOR
City Center	PMS 272C
Government Services	PMS 625C
Central Park	PMS 173C
Bull Durham	PMS 131C
Brightleaf	PMS 2718C
Warehouse	PMS 689C

2.6.3 Sign Placement

Goal:
Ensure that signage is placed to maximize its visibility to the intended users while remaining an unobtrusive integral streetscape element.



Guidelines:
a. Signage should be consistently sited within each development and throughout the Downtown streets.
b. Integrate streetscape signage with the surrounding site elements when possible. Combine more than one sign at a location into one assembly of signage.

Standards:
c. Site signs to ensure readability by providing a clear line of vision and approach from all angles.
d. Locate signage at critical decision points or major user decision points. Position signs to not obscure views of traffic for pedestrians and motorists at key access points.

2.7.1 Drainage

Goal:
Give special consideration to the siting of future streetscape utilities as well as visual improvements to the existing ones to avoid an unattractive image for Downtown.

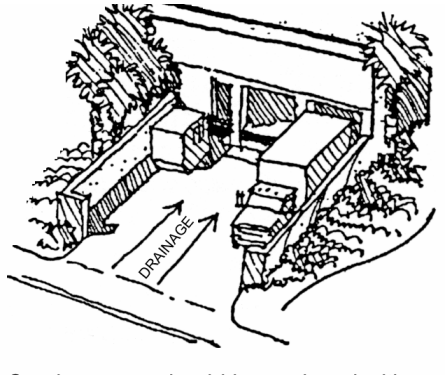
Standards:
a. Typically, sidewalk areas will sheet drain over the curb into the street. Exceptions to this layout will require both functional and aesthetic standpoints.
b. Street front plazas as part of a development shall drain internally rather than over the curb. Slope should be gentle and inlets arranged to become integral with the paving pattern.
c. Planter cutouts and tree grates/pits shall not receive storm water from paved areas. In no case shall retention areas flow onto paved surfaces on a regular basis.
d. Drainage from roofs, marquees and other architectural surfaces shall be piped directly into underground or surface retention structures.
e. Drainage and overflow of tree pits shall also be completely underground in order to avoid staining of pavements and a saturation of the pits and planters themselves.

2.7.2 Water & Sewer

Goal:
Reduce the impact of water and sewer elements on the streetscape while providing the necessary service to the urban environment.

Standards:
a. In order to facilitate cleaning of pavements and watering of corridor landscaping in the event of irrigation failure, hose bibs shall always be provided around building perimeters.
b. Hose bibs shall be located for maximum convenience and include security hardware, which is recessed and/or concealed by cover plates.
c. All manholes, sewer or otherwise, shall be located as sensitively as possible by coordinating with the particular utility company. Areas of heaviest foot traffic should have a minimum of such structures.

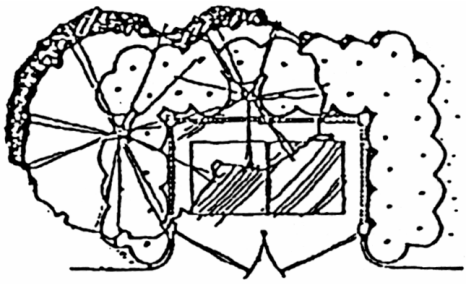
2.7 UTILITIES & SERVICE



2.7.3 Service Areas

Goal:
Minimize the visual and auditory impacts of service areas to maintain a pedestrian friendly streetscape environment.

Standards:
a. Enclose all service areas within the Downtown Districts entirely within a structure. If this is not possible, enclose the service area with a wall compatible with the surrounding building materials.
b. Provide water to service areas to facilitate cleaning.
c. Locate all service areas off-street wherever possible.
d. Service areas shall not drain over sidewalks or entry drives. Drainage should always be collected within these areas.
e. Service areas shall always be surfaced in concrete, never in asphalt, for durability.



Dumpster with fence enclosure softened by plant materials.

2.7.4 Dumpsters

Goal:
Reduce the impacts of dumpsters on the public streetscape.

Standards:
a. Locate dumpsters away from the streetscape. If possible, they should be internal to an architectural wall and enclosed with screening to reduce their conspicuous visual presence.
b. Lids are mandatory to control unpleasant odors, to deter animals, and for rain protection.
c. All dumpster enclosures shall be equipped with a hose bib or have one readily accessible to wash down the area and eliminate odors, etc.
d. Dumpster areas shall have internal drains to prevent storm water runoff onto the streetscape.

CHAPTER 3: UNIVERSITY-COLLEGE TRANSITIONAL USE AREA

University-College Zoning District

INTENT

The University-College (UC) Zoning District established by Durham's development regulations is intended to allow college and university campuses to expand while protecting the character of the surrounding neighborhoods. The UC District is divided into two parts, the Internal Campus and the Transitional Use Area (TUA), which have different effects on nearby non-UC properties.

In order to reflect this differing level of impact, the Internal Campus development standards are more general and flexible, while the TUA standards are more specific and detailed.

TUAs are designed to establish standards at edges of campus areas to minimize any adverse impacts of proposed development on adjacent non-university properties. These standards are applicable to a 150-foot wide area at the boundaries of the UC District.

The guidelines and standards contained in this chapter are intended to supplement the district requirements for the TUAs, providing even more detailed direction on issues such as compatible architecture and streetscape continuity. The Internal Campus is not subject to any additional design regulation.

INTENT

Neighborhood Compatibility vs. Campus Consistency

While the goal of TUA development should be to respect and achieve compatibility with the adjacent existing area, there should also be an emphasis on maintaining the unique identity of the college or university. Development in TUAs should balance compatibility with the non-UC neighbors with campus consistency.

New TUA development should first be designed as a part of the campus, and secondly as a part of the surrounding neighborhood. Design priority should be placed on achieving continuity with the internal campus, with neighborhood compatibility being a secondary requirement.

Designs in contrast to the neighboring non-UC context may be allowed if distinguishing trademark features or details common to the campus are incorporated and compatibility with the neighbors is achieved by alternate means.

Streetscapes in the TUAs should be consistent with the unique look and standards of each campus. This consistency applies not only to individual institutions, but also to any distinct campuses they may contain.

3.1.1 Siting & Orientation

SITE 3.1

Goal:
Ensure site and building design respect existing neighborhood layout, and the orientation of adjacent buildings, streets, and pedestrian paths.

Guidelines:

a. Site buildings to reinforce important pedestrian routes by orienting plazas, building entries, and walks toward major walkways. Avoid locating structures where they will cut off important existing pedestrian paths.
b. Avoid closed courtyards and small secluded green spaces. Provide street visibility in and out of small or secluded open public spaces.

Standards:

c. Orient buildings to reinforce the street pattern, whether curved or rectilinear.
d. Site buildings to maintain appropriate street wall proportions. Maintain a height to width ratio between opposing buildings that is consistent with the rest of the street.
e. Site structures with their front facades aligned to the established building line.
f. At intersections, site buildings directly on the corner. Parking, loading, and service areas may not be located at corners.
g. Locate service areas and unsightly and noisy elements at the rear of buildings, away from the street, and screen them with landscaping or architectural elements. These elements should not be visible from the adjacent non-UC properties. Unsightly and noisy elements include, but are not limited to, loading areas, parking lots, dumpsters, outdoor storage, utility meters, loudspeakers, guard dogs, HVAC and satellite equipment. See also 3.2.10.
h. Site dormitories and fraternity and sorority houses to minimize noise impacts on the surrounding neighborhood. These facilities shall not be located adjacent to existing non-UC single-family residential structures.

Structures should align to an established building line.

3.1 SITE

3.1.2 Parking Lot Design

Goal:
Promote contextually appropriate parking lot design to minimize glare and the visual impact of a group of cars, and ensure safety and convenience for pedestrians and motorists alike.

Guidelines:

a. Use mitigating elements such as decorative fences, walls, plantings, and topographic features to screen parking lot edges and loading areas, as well as to blend these features into the existing neighborhood fabric. Such elements should align with the street wall or sidewalk.
b. Divide large parking areas into smaller areas inter-connected by landscaped aisles and medians that provide protected pedestrian access between buildings and parking.
c. Landscape strips are encouraged between parallel parking rows, and should be wide enough to accommodate lighting, vehicle overhangs, plant material, and pedestrian walkways when appropriate.

A large parking lot is broken up visually through the use of landscaped medians.

Standards:

d. Minimize the number of curb cuts onto neighborhood streets by sharing access drives and interconnecting parking areas.
e. Where applicable, maintain the existing street wall at parking areas through the use of fences, walls, tree rows, hedges, or any combination.
f. Use curbs, wheel stops, fencing, or other barriers to protect landscaping and pedestrian paths.
g. Locate lockable bicycle parking close to building entries in safe, convenient, and visible yet unobtrusive locations. Install curb ramps near racks for easy access.

3.2.1 Architectural Integrity

Goal:
Design architecture according to a clear, well-articulated design concept.

Guidelines:
a. Design building elements such as parapet walls or screen walls as an integral part of the architecture, with similar materials and details of the primary structure.
b. Details of all architectural elements visible to the public (e.g., soffits, downspouts) should be finished in a manner consistent with the building's overall design.
c. Building design should incorporate elements that provide a choice of weather protection, allowing for rain cover and solar access in pedestrian areas. Appropriate architectural elements for this purpose include a mixture of recesses, overhangs, awnings, and covered walks.
d. Design multiple buildings on the same street to create a cohesive appearance.
e. Avoid historic replication or misrepresentation, considering basic elements such as scale, massing, and materials instead.

A new entry canopy provides weather protection while clearly differentiating itself as a modern addition to the old brick structure.

3.2.2 Context & Character

Goal:
Ensure architectural designs are compatible with the character of the surrounding non-UC area and complement the existing campus buildings, landscape, and streetscape.

Guidelines:
a. Building designs should be consistent with the dominant architectural character of the campus, but may use complementary building styles, heights, massing, forms, materials, details, and colors, which are sensitive to and compatible with the surrounding non-UC area.
b. To build on and preserve the existing character of an area, architectural designs should incorporate the same level of detail that pervades the neighboring area.
c. Development adjacent to historic districts should avoid incompatible design solutions.
d. Buildings may be designed to contrast with the predominant neighborhood character or architectural style if they incorporate other characteristics of the surrounding architecture, such as massing, rhythm, details or fenestration patterns.

A new lecture hall (left) is designed to blend with the existing architectural character of the campus.

3.2 ARCHITECTURE

3.2.3 Massing & Scale

Goal:
Design buildings that are appropriately scaled for their function and with respect to their context.

Guidelines:

a. Building height should generally relate to and align with neighboring structures.
b. Incorporate the vertical and horizontal lines of adjacent buildings, where appropriate.
c. Tall buildings are most appropriate where they may provide visual interest, frame view corridors, or relate to larger scaled structures. If the surrounding non-UC area is low-rise, a transition to taller internal campus buildings is required in the TUA.
d. Where building massing varies from the surroundings, compatibility may be achieved through fenestration and bay patterns and street level details.
e. Design buildings with an architectural and urban scale compatible with the neighboring area.
f. Buildings should relate to the human scale through the use of architectural elements, proportion, materials, and surface articulation.

An unassuming office building---on the edge of campus---is designed with a scale and massing typical of residential architecture.

Standards:

g. Maintain consistent massing and perceived building height at the street level, regardless of the overall bulk or height of the building.
h. Avoid large unarticulated monolithic buildings. Break down the apparent scale of buildings with facades exceeding 50 feet in length by the articulation of separate volumes into a coherent, hierarchical architectural composition. See also Standard 3.2.5g.

3.2.4 Building Materials & Colors

Goal:
Select compatible building materials and finishes that reinforce the existing campus identity while preserving the non-UC neighborhood character.

Guidelines:

a. Incorporate traditional building materials in buildings that are adjacent to historic structures.
b. Select materials based on their compatibility with adjoining buildings and the appropriateness for their intended function.
c. Contrasting materials may be allowed when incorporating other characteristics (such as form, scale, details, and color) that make the building compatible with the area.
d. Avoid frequent changes in material and color schemes in buildings.
e. Low maintenance materials are encouraged. For example, materials with integral color are preferred over materials that require routine painting.
f. Building materials should relate to the human scale (examples include modular units such as brick and stone). Monolithic and large scale building materials, such as stucco and concrete panels, will need special details at the street level to minimize the building's bulk and relate to the pedestrian.

Standards:

g. Building finishes and colors should blend with the existing architectural fabric of either the campus or the surrounding non-UC neighborhood.
h. Material and/or color changes should occur at a change of plane. Structures should not have material or color changes at their outside corners to avoid the appearance of thinness and artificiality.

A massive wall's scale is reduced through changes in material. A monolithic concrete wall is detailed with insets to give relief to an otherwise blank wall.

3.2 ARCHITECTURE

A modern building design uses traditional gothic design elements to blend with the existing Gothic Style campus. The corner tower is located on a prominent intersection, and makes the building easy to see on approach.

A highly articulated facade includes changes in wall planes, bump outs, recesses, varying heights, and coordinated railing details. The varied arrangement of these elements reduces the apparent size of an otherwise long wall and adds interest to the street. Consistency in materials and colors helps keep the facade composition unified.

3.2.5 Facade Design

Goal:
Ensure facade design exhibits a unified architectural expression complementary to the surrounding non-UC neighborhood.

Guidelines:

a. Design all building elevations to create a complete multi-sided architectural expression. Avoid creating a "back" to the building.
b. All building elevations should exhibit architectural consistency in their colors, materials and detailing, acting as a single cohesive structure.
c. The use of facade components such as those found in nearby structures is highly encouraged.
d. Avoid false or decorative facade treatments that use unrelated materials or details.
e. Large parapet walls should reflect the function behind them and should not be freestanding.
f. Towers and other similar distinctive elements are encouraged where buildings terminate street vistas or occupy prominent corners.

Standards:

g. Long, continuous, undifferentiated, monotonous wall planes, especially those without fenestration are strongly discouraged along public streets. They may however, be placed along alleys and service lanes/courts, away from public view. No street level, streetfront wall should remain unpierced by a window or functional public access, such as a door or passageway, for more than 20 feet. See also Standard 3.2.3h of this chapter.
h. Building bays or sections shall be proportioned to appear more vertical than horizontal.
i. Drive-up windows shall not be allowed.

3.2.6 Fenestration

ARCHITECTURE 3.2

Goal:
Design window and door placement to enrich the campus architecture and the neighboring non-UC environment.

Guidelines:
a. The design of windows and doors should be consistent and compatible with the context.
b. Avoid monotonous grids of repeated windows. The window pattern should add variety and interest to the architecture.
c. Locate windows to maximize the opportunity for occupant surveillance of areas such as entries, parking lots, and other public and semi-public spaces.

Standards:
d. Windows shall be proportioned to appear vertical, even when combined to form horizontal window bands.
e. Window muntins shall be true divided panes or fixed both on the interior and exterior surfaces.
f. Shutters shall be sized and shaped to match the associated openings.

A variety of window treatments and patterns adds interest to a large building facade.

3.2.7 Building Entrances

Goal:
Provide highly visible and inviting building entries.

Guidelines:
a. Entries that provide protection from the elements, with canopies, arcades, recesses, or roof overhangs, are encouraged, as they also reinforce the pedestrian scale.
b. Breezeways that connect the street with internal campus areas are encouraged, and should be designed with similar importance as other entryways.
c. Entries into service courts should be de-emphasized, and designed to be minimally visible by pedestrians.

Standards:
d. Buildings, other than retail, shall have a direct orientation and entryway facing a street.
e. Retail establishments shall have entrances that are oriented only towards the internal campus.
f. Clearly define primary building entrances, and emphasize them with architectural features, changes in the roofline, different massing, or unique materials.

A generous covered entry is both functional and easily recognizable. Lighting on either side of the entry further emphasizes the portal at night.

3.2 ARCHITECTURE

3.2.8 Roofs & Rooflines

Goal:
Provide attractive and interesting rooflines that are compatible with the neighborhood skyline.

The varied roofline conceals rooftop equipment from view and helps to reduce the bulk of the building.

Guidelines:
a. Roof features and parapets should complement the character of adjacent areas.
b. High reflectance/low emissivity roofing is strongly encouraged.

Standards:
c. Roof and parapet design shall completely screen rooftop equipment from view by pedestrians or neighboring building occupants.
d. Vary the rooflines of large buildings to reduce their apparent scale.
e. Roof penetrations should be placed back from the main frontage of the roof and finished to match the roof color.
f. Roof forms shall be designed to match or be similar in pitch, materials, and/or colors to the dominant roof style of the campus or surrounding non-UC area.

3.2.9 Accessory Structures

Goal:
Coordinate accessory structures with main buildings and incorporate into the overall design concept.

A gazebo-like structure marks the entry to a campus building with similar materials and details as the main structure. The gateway's details are pedestrian scaled and it is clearly visible on its open corner of a prominent intersection.

Guidelines:
a. Design accessory structures such as ATM's, food stands, kiosks, trash enclosures, storage areas, and utility buildings to directly relate in material, character and detail to the primary structure(s) or development.
b. Locate accessory structures to complement the overall site plan, and as to not create pedestrian or vehicular conflicts on site.
c. Accessory structures that are intended for pedestrian use should be sited in areas of good visibility to ensure the safety of the users.
d. Accessory structures situated along pedestrian paths should be designed to be human scale both in massing and details.
e. Accessory structures such as ATM's and food and newspaper stands should provide trash receptacles to ensure that wind blown debris is contained.

3.2.10 Utility & Service Areas

ARCHITECTURE 3.2

Goal:
Position services, including equipment, recycling, trash, utility, and delivery areas, to minimize their view and noise from nearby non-UC properties.

Guidelines:

a. Locate, design, and/or screen building services to minimize their audible and visual impact on streets and neighboring properties.
b. Avoid locating service areas along major view corridors, or adjacent to residential buildings or useable open space.
c. Locate and screen utility boxes, meters, and surface transformer switching pads to minimize their visual impact. Coordinate their location with the respective utility company early in the design process.
d. Outdoor storage is strongly discouraged.
e. Provide a screened, dedicated recycling storage area with the appropriate access for collection vehicles. Such an area may be located adjacent to the refuse storage, but the enclosure must be large enough to accommodate both activities.

Standards:

f. Group utilities in a service court away from the street front and out of pedestrian view. The recommended location for all utilities, equipment, and service and loading areas is to the least visible side of a building.
g. For new development, install all on-site utilities underground where possible.
h. All rooftop equipment including, but not limited to, telecommunications, satellite, HVAC, and elevator equipment shall be screened from view, in a manner consistent with and integral to the architecture.
i. Loading docks and service areas should not be sited on the street side of a building, and should be screened from pedestrian view with architectural or landscaping elements.
j. Refuse enclosures shall be screened from view on all sides with a six to eight foot high opaque screen of coordinated building materials or landscaping.

A decorative brick wall is used to screen a large pad of ground mounted mechanical equipment.

A dumpster is completely hidden by a combination of landscaping and wooden doors.

A street side hedge screens a transformer and other utilities from pedestrian view. The openly accessible side is oriented towards the least used pedestrian route.

3.3.1 Landscape Design

Goal:
Develop attractive, high quality, maintainable landscapes that are integrated with the architecture, and streetscape.

Guidelines:
a. The landscape design should create interest, add variety, provide focal points, and frame views.
b. A consistent, but varied, palette of plant materials is encouraged as a unifying framework, providing design continuity and street cohesion.
c. Optimize plant selection and location. Position deciduous plants to block the summer sun but admit it in winter. Tree placement should be planned with daily and yearly sun patterns in mind and adjacent building facade locations.
d. Planting should be used in conjunction with physical screening to soften service and parking areas visible from the streetscape.

Standards:
e. Landscape materials shall be appropriate in scale and nature to the site and architecture. Street trees shall be of the same species as the dominant street tree in the surrounding neighborhood, or a species similar in growth habits, canopy density, and mature size.
f. Landscape design, including the arrangement of street trees, shall follow the dominant pattern along the existing streetscape.
g. Use live plant material as ground cover, except in high traffic areas, where decorative paving is preferred.
h. The landscape design should help direct circulation, and shall not obstruct pedestrian or motor vehicle sightlines, or interfere with parking and circulation patterns.
i. Coordinate landscaping to avoid interference with utilities, driveways, clearance zones, or site lighting.
j. Plantings along streets with parallel parking should consider the door swing of a vehicle stopped at the curb. Plant material shall not interfere with easy door opening.

A clear sight triangle is maintained through the use of low growing groundcover, while taller landscape materials add definition to the intersection at each corner.

3.3 STREETSCAPES

3.3.2 Landscape Materials

Goal:
Select and arrange plant material and other landscaping elements to add variety and visual interest while maintaining a unified streetscape image.

Guidelines:

a. In any plant composition, there should be a predominance of material, color, or texture to provide unity.
b. Accent material, used in mass or singularly, should be introduced to play against the dominant material and create contrast.
c. Flowering trees are encouraged in areas of special focus. Since most flowering trees are also deciduous to varying degrees, they should not be used for screening or where maintenance is a problem.
d. Avoid the use of plants that routinely release juicy berries. Such plants may be acceptable in a park setting but are not appropriate for streetscapes or walkways. Give preference to plants with persistent fruits to ease maintenance and minimize negative impacts.
e. Below eye level, shrubs and ground covers are encouraged, as they contribute to the variety and interest of the landscape through contrasting variations in form, texture, and seasonal color displays.
f. Ground cover plants, which form low, spreading mats that require little maintenance, are encouraged to provide a visual richness, especially when viewed up close.
g. Under-planted ground covers as well as other under-story plantings are not recommended beneath trees. The avoidance of under-planting minimizes the competition of roots for water and nutrients in a confined space.
h. Materials such as bark chips, rock, and stone or masonry slabs should complement the plantings.

A colorful flower bed accents a gateway at the edge of campus.

3.3.3 Landscape Installation

STREETSCAPE 3.3

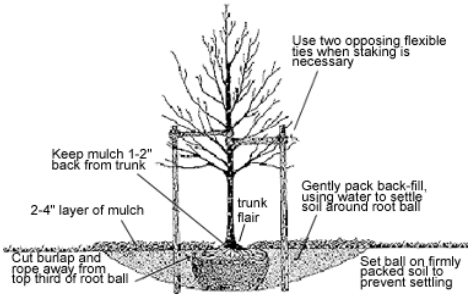
Goal:
Follow sound horticultural practices to ensure the health and longevity of plant material, thus enhancing the visual character of the neighborhood streetscape.

Guidelines:

a. Trees along the streetscape should be planted in a manner consistent with the dominant planter type (whether a tree grate installation, or in planting beds or strips), so that consistency is maintained along the streetscapes.
b. Adjacent trees (and multiple plantings) should share root zones when possible. Use a continuous planting strip as opposed to individual tree pits. Where access between trees is desired, porous materials may be used as paving.
c. Avoid the combination of container grown and balled and burlapped plants in the same planting area, as the container grown plants will out-compete the others.
d. Avoid the combination of plants with differing cultural requirements in the same planting area.

Standards:

e. Provide adequate root space for plants, and avoid planting competing plants together.
f. For tree planting, refer to the guidelines outlined by the City of Durham Public Works Department.
g. Planting areas shall drain within themselves, not onto paved pedestrian surfaces. Underground drainage piping from planters and yard inlets should tie into storm sewer lines, where possible.
h. Apply two to four inches of mulch to conserve moisture, restore soil fertility, and reduce the need for fertilizers. Mulching techniques should be appropriate to the plant type and location.
i. Curbs, tree guards, or other appropriate elements should protect landscape materials, which may be susceptible to damage by pedestrian or motor traffic.
j. Tree plantings in paved areas shall be accommodated with porous surrounding surfaces that allow water to reach the roots of the plantings. All tree grates and porous paver systems shall meet ADA standards.
k. All plant material shall meet or exceed standards set by the American Association of Nurserymen, Inc. (A copy of these standards is available for viewing in the Durham City-County Planning Department.)



Tree planting diagram

3.3 STREETSCAPE

3.3.4 Sustainable Streetscapes

Goal:
Incorporate xeriscape principles and water pollution reduction strategies into the overall streetscape design.

Guidelines:
a. Give preference to native, self-sustaining, low maintenance, drought tolerant, and pest and disease resistant plant varieties.
b. The planting of invasive species is not permitted. Refer to the Planning Department for a list of banned and discouraged invasive plants.
c. Use plant combinations and maintenance strategies that do not require routine chemicals, to reduce water pollution from pesticides, herbicides, and fertilizers.
d. Group plants with similar water needs together, and locate them appropriately on site to ease maintenance.
e. Reduce lawns and opt for low maintenance plants, thus reducing chemical and mower pollution, and energy, water, and maintenance costs.
f. Install gravel, sand, pavers, and other porous surfaces when possible to allow water infiltration, thereby reducing non-point source pollutants and minimizing erosion.
g. Amend soil with compost or other organic matter in lieu of peat moss, a non-renewable resource.

3.3.5 Streetscape Furnishings

Goal:
Incorporate furnishings along the streetscapes to add to the functionality and character of the campus area.

Guidelines:
a. Furnishings along TUA perimeter streets should be of a style and color to coordinate with other campus furnishings or details.
b. Streetscape furnishings including, but not limited to, benches, lighting, waste receptacles, planters, signage and kiosks should be designed to coordinate together and reinforce the campus character.

Historically styled street lights and coordinating metal bollards help define this campus streetscape.

3.3.6 Retaining Walls & Fences

Goal:
Ensure that the design of walls, fences, enclosures, and similar site elements is compatible with the architecture of the main building, and the overall character of the surrounding neighborhood.

Guidelines:

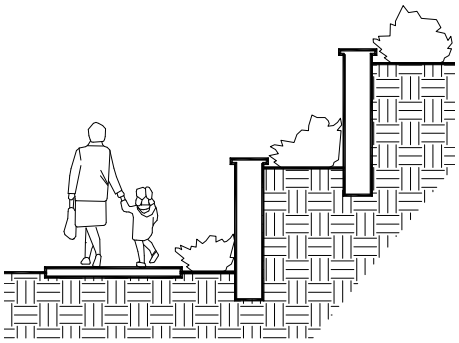
a. Retaining walls and fences should be considered an extension of the adjacent structure or architectural element, and the materials should be compatible. Fencing can be accomplished in the form of a planter wall or as an extension of an architectural wall feature.
b. The height, length, and visual impact of retaining walls and screen walls should be visually minimized through the use of landscaping elements. Locate plant material intermittently along long wall or fence expanses to soften their appearance and provide visual relief along the streetscape.
c. In highly visible public areas where fencing is needed, decorative metal fencing is encouraged.
d. Whenever possible, combine fences with other elements such as columns and walls.
e. Locate fences to be sensitive to the surrounding area.

Standards:

f. Retaining walls and walls that extend out from a structure, as in the case of screening service areas, shall be compatible with the building style, color, and materials, or with the style, color, and materials that is unique and characteristic of the campus.
g. Terrace retaining walls that require a height over four feet.
h. Walls and fences should minimize visual monotony through changes in plane, height, texture, material, finish, or significant landscape massing. Interest and variety can be provided through the use of offsets, pilasters, columns, and insets, as well as through the artful combination of architectural materials.
i. Chain link fencing (with or without any type of inserts), razor wire, and barbed wire are not permitted along the streetscape.

A stone pier marks a campus entryway using the university's signature material.

Decorative metal fencing is combined with a low brick wall and piers to create an attractive street edge.



Retaining walls over four feet high are made more attractive and pedestrian friendly through the use of terraces and landscaping.

3.3 STREETSCAPE

A break in a perimeter wall links a crosswalk and sidewalk to the internal campus walkway system.

3.3.7 Sidewalks and Paths

Goal:
Use pedestrian paving to define uses along the streets, and distinguish between public sidewalks and private areas.

Guidelines:

a. Sidewalks must be designed to last over time, and require minimal maintenance.
b. The color, pattern, and texture of streetscape sidewalks should reflect an area's use. Greater degrees of detail and richness of material are more appropriate at focal points and intersections, while simple, consistent, homogenous materials are more conducive to movement.
c. Walkways should connect to adjacent non-UC properties and nearby trails to promote pedestrian connectivity.
d. Use a change of materials to add visual interest along large or long walkway areas.

Standards:

e. Provide pedestrian paths and walks to connect campus perimeter sidewalks with internal campus circulation systems.
f. Sidewalk materials and colors should either be consistent with the neighborhood or with the unique character of the campus.
g. Surface finishes shall be slip-resistant in all conditions.
h. Sidewalk slopes shall not exceed five percent with cross slopes not exceeding two percent.
i. On roadways that are pedestrian dominant, a minimum eight-foot wide sidewalk is recommended to accommodate greater foot traffic.
j. When possible, sidewalks through open space or parks shall have a minimum width of eight feet to accommodate cyclists. Sidewalks less than eight feet wide should not allow bicycle traffic as part of their use.

3.3.8 Streetscape Accessibility

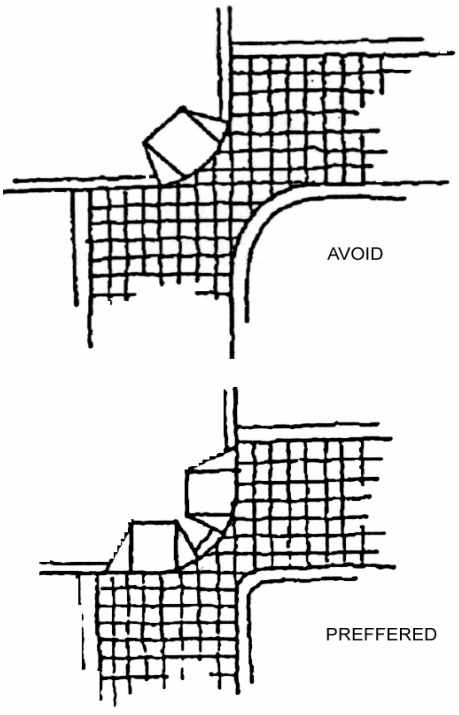
Goal:
All pedestrian walks must be barrier-free at intersections.

Guidelines:

a. Ramps should be integrated into the surrounding site elements and not added as an accessory feature.

Standards:

b. The surface finish and color of ramps shall be distinct from other paved surfaces to communicate a change of grade to the user. Concrete ramps are preferred.
c. Surface finishes and materials shall be slip-resistant under all conditions.
d. Where sidewalks intersect curbed roadways, drop curbs shall be provided. If space permits, the grade of the entire walk should be dropped to meet the grade of the roadway.
e. The sides of the ramps shall be tapered according to code to provide minimum obstruction for sidewalk traffic.
f. Ramps that direct users toward the center of an intersection are not to be used. Ramps shall be located at each crosswalk section. All crosswalks should conform to standards set by the City of Durham and applicable ADA codes.
g. Mid-block crosswalks shall not be used across streets that divide campus areas from non-UC areas.
h. Ramps shall provide top and bottom landings with slopes not to exceed two percent. The ramp slope must not exceed limits set by the governing codes or Durham City Standards.



Accessible curb cuts

3.3 STREETSCAPE

3.3.9 Bicycle Facilities

Goal:
Provide bicycle racks around campus perimeters to allow cyclists to park and lock their bikes.

Guidelines:
a. Bicycle racks should be installed at logical locations such as entrances to buildings.
b. Racks may be located along the streetscape when the sidewalk is wide enough to accommodate their placement without interfering with pedestrian passage or landscaping.
c. Sculptural bike racks that represent a unique aspect, characteristic, or symbol of the campus are encouraged.

Standards:
d. Bicycle parking shall meet the Design Standards for Bicycle Parking of the City of Durham Zoning Ordinance.
e. Locate bike racks in areas of high activity to discourage thefts and to provide opportunities for their surveillance.
f. Situate bike racks outside of pedestrian paths.

3.3.10 Transit Stops

Goal:
Incorporate transportation stops as integral and attractive streetscape elements.

On a campus where stone is the predominant material, a modern transit stop is made compatible with the overall aesthetics through the use of an ashlar stone base. The stop provides shelter, is easily accessible, and includes seating and a waste receptacle.

Guidelines:
a. Locate transit stops near activity zones, especially near entrances to campus.
b. Locate transit stops near major building entries and provide convenient pedestrian access between transit stops and building entries as part of the overall pedestrian circulation network.
c. Reduce and consolidate the number of stops.

Standards:
d. Transit stops shall be consistent in design throughout the campus vicinity, and be compatible with the overall neighborhood streetscape.
e. Transit stop facilities shall include, at a minimum: shelter from the rain and sun, seating, lighting and good visibility for easy surveillance.
f. Site transit stop shelters to minimize interference with pedestrian flow along the street.
g. Include curb cuts at transit stops for accessibility.

3.3.11 Streetscape Lighting

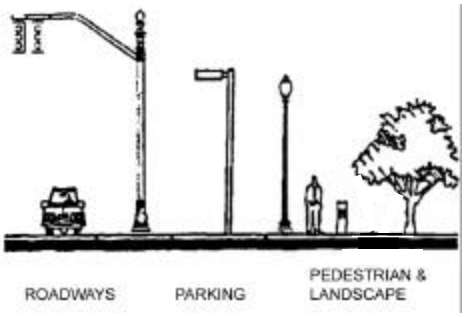
Goal:
Use streetscape lighting to provide appropriate light for vehicular and pedestrian safety throughout the campus perimeter.

Guidelines:

a. Lighting should provide a sense of security for pedestrians. Lighting sources along the sidewalks and roadways should be bright and frequent enough to avoid the creation of dark spaces which could be perceived as threatening.
b. Lighting should be hierarchical. Fixtures should vary in type and intensity based on the corridor and its function.
c. Light fixtures and poles should be consistent in style, finish, and height to existing surrounding fixtures.
d. Coordinate site lighting elements for uniformity within the campus. Such elements may include light poles, bases, lamps, bollards, and building mounted fixtures.

Standards:

e. Consider the proper relation between the scale of a fixture and the function of the corridor. In general, primary vehicular areas will have higher mounting heights than pedestrian areas, in accordance with the City of Durham Street Lighting Policy, AASHTO standards, Duke Power, and NCDOT regulations.
f. The use of timer-activated photocells is required for all lighting to reduce the cost of operation.
g. All poles and fixtures, including existing highway and thematic poles, shall have a uniform finish, consistent with the dominant fixture color of the campus or neighborhood.
h. All fixtures shall be fully shielded to direct light downward. Uplighting is not allowed.
i. Lighting may not be permanently or temporarily attached to or wrapped around trees. These lighting techniques can cause girdling.
j. Acceptable accent lighting options include architectural lighting that highlights features without uplighting structures, heavy duty light strands that outline structures, special lighting at fountains and public artworks, bollard lights at seating areas and bicycle racks, and low-voltage decorative landscape lighting whose only underground component is wiring.



The light fixture should be proportioned to correspond to the scale of the function it serves.

APPENDIX A

Glossary of Terms

APPENDIX B

Streetscape Maintenance

GLOSSARY

A

Accessory Structure
A structure that exists on the same lot with the principal structure and is customarily subordinate to or incidental to the principal structure.

Adaptive Re-Use
A preservation strategy for older or historic properties in which the structure is renovated to accommodate a use different from the original intention.

Architectural Expression
A built representation that manifests, embodies, or symbolizes something.

Architectural Fabric
The structures that make up an area, such as a street, neighborhood, city, or region.

Articulation
An emphasis given to architectural elements (including windows, balconies, porches, entries, etc.) to create a complimentary rhythm or pattern; modulation of building facades, massing, and detail to create variety.

Atria
A rectangular shaped open patio around which a structure is built; a many-storied court in a building usually with a skylight.

B

Berm
A mound or wall of earth usually placed against a building wall for stabilization or insulation.

Bollard
A short post used in series to delimit an area or exclude vehicles.

Breezeway
A roofed open passage connecting two buildings or halves of a building.

Brownfield
Abandoned or under-used industrial (or commercial) land where expansion or redevelopment is complicated by real or perceived environmental contamination.

GLOSSARY

Buffer
A portion of property designated to mitigate impacts between land uses or transportation routes, or to protect water features from pollutants.

C

Canopy Tree
A tree generally having a straight trunk and a broad, spreading crown. Usually refers to large deciduous trees that form a canopy, providing shade.

CFC (Chlorofluorocarbon)
Any of several simple gaseous compounds that contain carbon, chlorine, fluorine, and sometimes hydrogen, that are used as refrigerants, cleaning solvents, and aerosol propellants and in the manufacture of plastic foams, and that are suspected to be a major cause of stratospheric ozone depletion.

Character
The impression or appearance of a place, which is comprised of typical and distinguishing features that give it a sense of unique identity.

Chicane
Physical constrictions, of at least three to a set, built at the curbside of the roadway to create a 45° bend in a formerly straight street. Cars are forced to negotiate this narrowed roadway in a snake-like manner. The same effect can be achieved by alternative street parking from one side to another.

Choker
A physical constriction built at the curbside of a roadway effectively reducing the width of the travel lane.

Circulation
The orderly movement by people or vehicles through a system, such as a street grid, parking lot, or trail.

Clerestory
A vertical element of glazing at the roof level of a structure.

Clustering
The practice of grouping structures on lots with smaller dimensions than normally permitted within a zoning district in exchange for the provision of permanent open space within the same development.

Courtyard
An open space enclosed wholly or partly by buildings or circumscribed by a single building.

GLOSSARY

D

Daylighting
Daylighting is the controlled admission of natural light into a space through windows to reduce or eliminate electric lighting.

Design Concept An abstract or generic design idea generally containing the overall intent of the design.

Detention Basin
A basin (usually designed as a pond) built to store stream flow or surface water runoff, and to control the release of such stored water.

Downspout
A vertical pipe used to drain rainwater from a roof.

E

Elevation
An exterior vertical wall plane of a structure, especially as depicted in a two-dimensional drawing.

Embodied Energy
The energy required to make and transport materials and equipment regardless of the energy they (or the final products they may become) will consume over their lifetime.

F

Facade
Any face of a building, also called an elevation.

Fenestration
The arrangement, proportioning, and design of windows and doors in a building.

G

Galleria
A roofed and usually glass-enclosed promenade or court.

Gateway
A passage into or out of a specific area denoted and emphasized by a special treatment of the passageway.

GLOSSARY

Geometric Basin
A water run-off collection basin that is clearly man-made in appearance, taking on a distinct geometric form. Geometric basins are usually constructed out of concrete.

Glare
An interference with visual performance caused by direct or reflected light.

Grading
The manipulation of the topography into a coordinated system that accommodates buildings and roadways, and directs water away from areas that should be kept dry.

Gray Water
Wastewater that is devoid of fecal contamination and originates from sinks, showers, and other related sources. It can be used for irrigation after simple filtration.

Green Design/Building
Design and construction practices that significantly reduce or eliminate the negative impact of buildings on the environment and occupants in the following areas:

- sustainable site planning;
- safeguarding water and water efficiency;
- energy efficiency and renewable energy;
- conservation of materials and resources;
- and indoor environmental air quality.

(As defined by the U.S Green Building Council.)

Greenfield
Land that is essentially in its natural state with no construction or improvements to disrupt its original ecosystem.

H

Human Scale
A size relative to the human body.

HVAC
Acronym for heating, venting, and air conditioning.

I

Infrastructure
The system of resources and public works of a country, state, or region necessary as an underlying foundation for development.

Invasive Species
Plants, animals, and microbes not native to a region which, when introduced either accidentally or intentionally, out-compete native species for available resources, reproduce prolifically, and dominate regions and ecosystems.

L

Lifespan (of structures)
The period of time when factors including maintenance, operating, repair and/or reconstruction costs are less than the cost of building a similar new building and are not outweighed by a demand for more flexible space.

Light Pollution
Excess brightness in the sky resulting from direct and indirect lighting above urban areas. Light pollution disrupts biological cycles in plants and animals, having a negative impact on the urban ecology, and makes it more difficult for astronomers to discern elements of the night sky.

Light Shelf
A horizontally placed light reflector, usually used to bounce light deep into a space and/or avoid glare.

Light Trespass
The encroachment of light into an unwanted space, such as a neighboring property.

M

Massing
The size, expanse, and bulk of a building, especially with reference to how it is shaped or formed.

N

Native Plants
Plants that have evolved over thousands of years in a particular region, adapting to the geography, hydrology, and climate of that region.

GLOSSARY

Non-Point Source (NPS) Pollutants
Pollutants such as fertilizers, herbicides, insecticides, oil, grease, sediment, salt, bacteria, and toxic chemicals, which unlike pollutants from industrial and sewage treatment plants, come from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away pollutants, depositing them into lakes, rivers, wetlands, coastal waters, and even underground sources of drinking water.

O

Open Space
Areas of a development that allow for light, air, wildlife habitat, and for scenic and recreational use, including areas designed to enhance the privacy or appearance of a development. Private open space is open space that is owned by a corporation, individual, or homeowners association. Public open space is usually owned by a governmental jurisdiction or a non-profit entity.

Orientation
The directional placement of a structure or element in relation to the setting, street, and other structures.

P

Parapet
A low guarding wall at the edge of a point of sudden drop, such as a roof, terrace, balcony, or bridge.

Passive Design
An approach to architectural and site design that aims to minimize heat loss in winter and heat gain in summer, and use light efficiently without relying on mechanical or electrical systems.

Persistent
Said of leaves that are evergreen and of flower parts and fruits that remain attached to the plant for protracted lengths of time.

Pilaster
An upright architectural member, rectangular in plan and structurally a pier but treated as a column that usually projects a third of its width or less from the wall.

Plaza
A public square in a city or town or an open area usually located near urban buildings and often featuring walkways, landscaping, places to sit, and sometimes shops.

Q

Queue
A waiting line of people or vehicles.

R

Riparian
Relating to or living or located on the bank of a natural watercourse (as a river) or sometimes of a lake or a tidewater.

Roof Monitor
A multi-sided clerestory, often used in series to admit sunlight from various directions at the roof level of a structure.

Roundabout
A type of traffic circle in which vehicles are slowed as they approach triangular diverter islands at the intersection. Vehicles yield to traffic in the circle, and a constant flow is maintained.

Rhythm
The regular pattern or repetition of elements. The recurrence of architectural features such as windows and other details, especially in the façade of a building.

S

Scale
A distinctive relative size, extent, or degree.

Screen
A device or partition used to conceal, protect, or decorate. Plant materials and other landscape or architectural elements used separately or in combination to obscure views.

Setback
The distance between a property line and a building or structure.

Service Court
An enclosed or semi-enclosed area housing utilities and/or service functions of a building. It is typically formed by surrounding an area by buildings, or fencing in an area adjacent to a building. It is usually spacious enough to accommodate various services, deliveries, or maintenance functions at once.

GLOSSARY

Sign Program
A signage plan that acts as a framework, guiding aspects such as size, location, materials, colors, and other issues of general appearance to create a cohesive system of uniform signs.

Scupper
An opening in the wall of a building through which water can drain from a floor or flat roof.

Solar Access
Freedom or ability to obtain or make use of natural sunlight; generally refers to not being deprived of sun by obstacles such as nearby buildings.

Solar Orientation
The position relative to the sun; generally described using the cardinal directions.

Speed Bumps/Humps
Raised pavement undulations (with a parabolic top) in the roadway, which extend across the travel lane(s) perpendicular to the direction of traffic flow.

Street Wall
The implicit line created by the facades of adjacent structures.

Streetscape
The appearance or view of an entire street or street network in general, including sidewalks, utilities, landscaping, street furniture, and the structures that make up the street wall.

Sustainable Architecture
An architectural movement, which aims to preserve environmental quality through designs that emphasizes sustainability, recycling, and passive strategies.

Sustainable Design
A design ideal that aims to achieve an ongoing and maintainable balance between the resources consumed and created.

T

Thermal Bridge
A highly conductive building element that penetrates through a non-conductive element (such as insulation) to the building envelope. A thermal bridge bypasses and negates the insulation, allowing heat transfer from the inside to the outside and vice versa.

Thermal Buffer
A space or element, located between the exterior and another space, which acts to reduce the heating and cooling load on the other space.

Traffic Calming
A technique used to slow, and control vehicular traffic in an effort to ensure safety.

Traffic Circle
A design that provides circular, counter-clockwise movement through an intersection by allowing approaching vehicles to yield and merge into traffic in the circle. This type of intersection is designed to have continuous flow, and usually has a raised landscaped area in the center.

Transit
The local transportation of people by public means of conveyance, such as by bus or rail system.

U

Urban Park
A piece of ground in a city or town kept and maintained for ornament and recreation.

Urban Public Space
Public space provided and designed for the purpose of public congregation in an urban area. Examples of urban public spaces include plazas, urban parks, gallerias, atria, courtyards, breezeways, and even public streets that are closed for a gathering function. Such spaces, whether privately or publicly accessible, have distinct urban characteristics including coordinated streetscape paving, seating, and lighting, direct access from the street or sidewalk level, and siting within a zone of pedestrian activity.

W

Water-Wise
A water-conserving landscape or landscaping method.

Watershed
A region or area bounded peripherally by a divide and draining ultimately to a particular watercourse or body of water.

Wetland
An inland or coastal area that is periodically flooded or immersed in fresh or saline water. Land or areas (as tidal flats or swamps) containing much soil moisture.

GLOSSARY

Z

Zero Lot-Line
A development in which one or more detached dwelling units abuts at least one property line. This definition does not include townhouses.

STREETSCAPE MAINTENANCE

A regular schedule should be established and adhered to in monitoring the condition of streetscape elements along Downtown Durham. At a minimum, the following should occur:

1 Paving

1. Repair or replace cracked, broken, or missing paving at sidewalks, streets, crosswalks, and curbs. Such cracks or broken pavement can create a hazard to public safety.
2. Sidewalks should be kept clear of deleterious materials (especially invasive plant materials) and all walks and plazas should be kept clear and trash picked up as needed. Sidewalks should also be power washed on a regular basis.
3. Concrete joints should be properly maintained and caulking replaced as needed.

2 Walls & Columns

1. Maintain brick, stone or concrete walls and columns in good condition. Missing units or cracks should be replaced or repaired. Mortar and caulking shall be repointed or replaced as needed.
2. Walls and columns should be kept clean from graffiti, paint and other markings at all times.

3 Metals

1. Maintain all metal fabricated street furnishings, fencing, railings, kiosks, etc. in good repair and condition. Painted surfaces should be repainted if scratched, chipped, or painted with graffiti. Broken or dented parts should be replaced or repaired within 30 days of being damaged.

4 Trash Removal

1. A regular schedule should be established and adhered to for trash pick-up and removal.

STREETSCAPE MAINTENANCE

5 Plant Materials

1. Plant materials should be guaranteed for one year after installation. Any plant that dies or becomes diseased during the one-year period should be replaced.
2. Water, but do not over water any plant.
3. Perform any needed maintenance of planting beds, planter boxes or tree pits, including, but not limited to: cleaning, weeding, pruning, spraying, mulching, and replacement of grates or paving materials.
4. Plants should be trimmed to preserve their health and vigor, as well as their natural and aesthetic form, through the removal of: dead, damaged, or diseased wood/limbs, rubbing branches, dense interior growth.
5. When necessary remove the grates, previous paving material, or other material installed in a planting bed to perform necessary maintenance on the roots of the tree.
6. Trees should be properly staked and guyed during the one-year guarantee period after which time staking and guying materials should be removed. Watering basins should be formed around the base of each tree and be maintained throughout the guarantee period.
7. Do not attach anything to trees.
8. Plant growth should be sprayed as necessary to prevent disease or insect damage.
9. Check mulch mediums in spring and autumn to determine if replenishment is necessary. Maintain depth of mulch at 3 inches.
10. A regular fertilization schedule should be established and adhered to for all plant materials.
11. Trees and other plant materials within the public R.O.W. should be kept and maintained in such a manner as not to endanger, interfere, or otherwise conflict with requirements for safe public use.
12. Perform any needed maintenance on sod or other lawn areas, including, but not limited to: cleaning, mowing, weeding, spraying, fertilizing, aerating, dethatching, and watering.

6 Irrigation

1. Irrigation system should be properly checked and pressurized at spring start-up.
2. Irrigation system should be monitored and adjusted as necessary during the season.
3. Irrigation system should be properly shut down and winterized at the end of the season.
4. Sprinkler heads should be properly maintained. Heads should be replaced immediately upon report of any damage, broken heads, leaks, etc.

7 Lighting

1. Lighting controls, timers, photocells, etc. should be maintained in good operating condition.
2. Replace damaged or missing light poles or any part immediately following damage.
3. Replace burned out bulbs or lamps within 10 days of being burned out.
4. Perform any needed maintenance work, cleaning, painting as needed to maintain a clean appearance.
5. Provide continuous electrical service to the pedestrian lighting at all times.
6. Maintain all light and traffic signalization poles in good repair and condition. Painted surfaces should be repainted if scratched, chipped or painted with graffiti. Broken parts or dents should be replaced or repaired within 30 days of being damaged.